Alcohol drinking behaviour and attitudes in three areas of Britain with different official rates of problem drinking.

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DECLARATION

The author is solely responsible for the various survey materials within, and the analysis and discussion of all data presented from, the study reported in this thesis. The author also selected and trained those persons who were employed to (a) check completed interview schedules in the main survey and (b) conduct telephone interviews in the follow up survey. Survey Research Associates, Tower House, Southampton Street, London, WC2E 7HN, a commercial market research company, were hired to randomly select and interview clients. The author collaborated with this company in (a) constructing interviewer instructional materials (as indicated in the text) and (b) running interviewer training sessions.

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ABSTRACT

Background

There is considerable variation in alcohol-related problems between the regions of Great Britain. Previous investigations have clearly shown that the magnitude of such problems is considerably higher in northern areas than in southern areas of Britain. Yet consideration of the survey literature (Chapter 4) demonstrates that the relationship between regional variations in alcohol consumption and alcohol-related problems within a British context is not well understood.

Aims

The aim of the project was to consider the drinking practices and attitudes in three areas of Britain which manifest markedly different rates of problem drinking. These were the Highland and Tayside regions of Scotland, and part of the South East Thames Health Board (effectively "East Kent" but referred to as "Kent") in England. Of the three areas Highland Region manifested the highest problem drinking rates and Kent the lowest rates. The specific aim of the project was to determine whether the consumption practices of persons in Highland region differed from those from the other two areas in such a way as to account for the different problem drinking rates.

Method

Between 8th September and 10th October 1982, 2349 adults aged 18 and over were randomly selected and interviewed about their alcohol consumption habits, experience of adverse consequences from drinking, and their attitudes and knowledge about alcohol use and misuse (Chapter 6). A commercial survey organisation was hired for this purpose.

Response rates

At 69% the response rate was modest in comparison to previous British general population surveys (Chapter 7). However, consideration of previous studies and of a follow-up survey (Appendix 8) of non-participants to the main survey suggested that the findings from this survey were valid.

Results

It was hypothesised that the Highlands would be characterised by one or more of the following: more drinkers; more heavy drinkers; more frequent drinking occasions; more binge drinking; higher mean consumption levels; faster consumption rates; more negative attitudes towards drinking; and greater awareness of alcohol-related problems within the community. None of the hypotheses relating to consumption were supported (Chapter 8). Indeed, if anything, Taysiders exhibited the greatest consumption levels, rates etc. There was mixed support for hypotheses relating to attitudes. Nor

was there evidence that the drinking patterns of specific population sub-groups (Chapter 9) varied in accordance with problem drinking statistics. There was, however, a greater tendency for the Scots, irrespective of region to firstly, indulge in binge drinking and secondly, to report adverse consequences in the previous two years.

Discussion

A number of possible explanations were offered to account for the failure to relate variations in consumption patterns to variation in alcohol consumption patterns (Chapter 10). There was, for example, some admittedly crude (Appendix A) evidence that the effect of various biases upon alcohol consumption levels varied by region. Highlanders, for example, appeared to suffer greater memory loss for number of drinking days in the past week, while males from Kent were more likely to under-report when interviewed in the presence of another household member.

There was also evidence that the Scots reacted differently to alcohol than did those from Kent. But it is not clear whether this reflected culturally based differences in expectations about alcohol; genetic differences in the reaction to alcohol; or the operation of other factors including diet, lack of exercise, smoking etc, which act in combination with alcohol to increase risk of harm. Regarding the latter explanation it is, for example, well established that the Scots exhibit a particularly unhealthy life style and are at a greater risk of a variety of diseases.

There is also strong evidence that at least one of the commonly employed official indicators of problem drinking, namely hospital admissions for alcohol dependence, abuse and psychosis is suspect. Latcham (1985) in a companion study observed that Highlanders were 12.5x more likely to be admitted to a hospital bed with such a diagnosis than were people from Kent. But when psychiatric out- and day-patient rates were added to in-patient rates this difference disappeared. Clearly care has to be taken when interpreting official statistics relating to problem drinking. Policy implications are discussed.

CONTENTS

CHAPTER 1

INTRODUCTION AND BACKGROUND

"In Scottish society alcohol is incorporated into the fabric of everyday life. Its use is an integral part of the most joyous and the most distressing of human occasions. Alcohol is used as a stimulant*, a tranquilliser, a celebrant, a medicine, a social lubricant, a religious symbol and as an indicator of the transition from work to play. The functions of its use are so diverse that at times they are contradictory" (Scottish Health Education Co-ordinating Committee (SHECC, 1985 p.7).

These comments, though addressed to Scotland, apply equally well to the rest of the UK. They describe the many important and beneficial uses of alcohol. But there are also many costs associated with alcohol misuse (several varieties of which are discussed in Chapter 2). The SHECC review noted that within the UK alcohol intoxication is involved in some 60% of parasuicides (Platt 1983), 54% of fire fatalities (Scottish Council on Alcoholism 1976), 50% of homicides (Gillies 1976), 42% of hospital admissions for serious head injuries (Patel et al 1972) and 35% of fatal road traffic accidents (Sabey & Staughton 1980). Indeed, it has been estimated that alcohol causes about 5-10,000 premature deaths

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*Alcohol is in fact a depressant (Royal College of Psychiatrists, 1979)

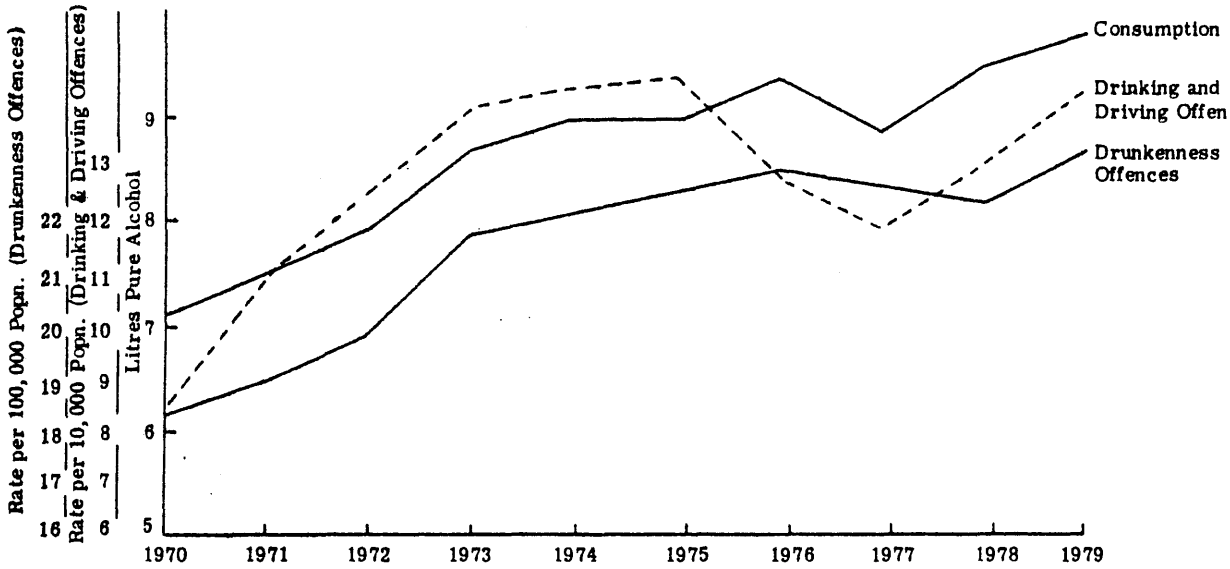

Figure 1.1: Relationship Between Per Capita Alcohol Consumption, Offences of Drunkenness and Driving Offences in the United Kingdom (1968-79)

Source: Davies (1982a)

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annually in Britain (Office of Health Economics 1981) and that, at 1983 prices, the cost of alcohol misuse in England and Wales was in excess of £1500 millions (McDonnell & Maynard 1985).

There is little doubt that the costs of alcohol misuse are in some way related to the amount of alcohol consumed within a society. Figure 1.1, for example, shows a clear relationship between per capita consumption and several varieties of harm in the UK for the years 1970-1979. Nevertheless there is a considerable and continuing debate concerning the precise relationship between per capita consumption and societal harm. The origins of much of this debate can be traced to Ledermann (1956) who argued that,

firstly, alcohol consumption is lognormally distributed within an homogeneous population (Figure 1.2) and secondly, that the proportion of excessive drinkers within that population is associated with its mean consumption. Such arguments have been used in support of the contention that societal harm will be reduced by introducing control policies aimed at lowering mean consumption levels (Bruun et al 1975; Central Policy Review Staff 1979; Davies 1982b; Kendell 1984). Critics, however, maintain that Ledermann's assertions are flawed (e.g. Skog 1971, 1985, Miller & Agnew 1974; Duffy & Cohen 1978), and Parker & Harman (1978) dismiss much of the empirical support for being "weak, inconclusive and even negative" (p.395). Nevertheless, irrespective of whether consumption and damage are lawfully related, the state of the art appears to be that while "the initial argument was whether the two are related at all ... now the issues are more exactly how they are related, how they are related in subgroups of the society, and what determines consumption" (Smith 1981 p.895).

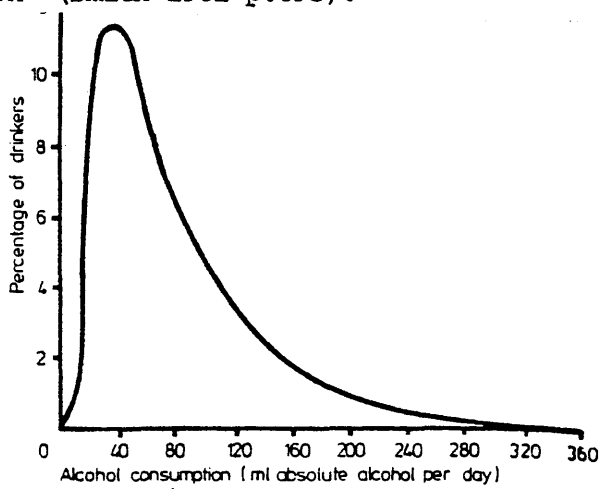

Figure 1.2: Hypothetical curve proposed by Ledermann that shows alcohol consumption in a homogenous population to be distributed in a logarithmic normal manner.

Source: Smith (1981)

1.1 British Regional Variations in Alcohol- related Problems

Officially recorded rates of problem drinking are markedly greater in northern Britain than in southern Britain. Two early reports, both published in the mid-1960s, noted that the Scots were about 4.5 to 6 times more likely to be admitted into a mental hospital with a diagnosis of alcoholism than were the English or Welsh (Morrison 1964; Macrae 1965). This north-south gradient which is also evident within Scotland appears to be unrelated to variation in either diagnostic practice or to socio-demographic differences among inpatient populations (Morrison 1964). Macrae (1965) also reported that the substantial increase in cirrhosis rates which took place in Scotland between 1954-63 were not matched in England and Wales. More recent and substantial investigations have not only confirmed the existence of these geographical variations for such indicators of alcohol misuse as alcohol-related mortality, crime and alcoholism admissions (Kilich & Plant 1981, see Figure 1.3) but have also shown that they have been evident for many years (Haskey et al 1983). Kilich & Plant (1981) argue that exceptions to the pattern shown in Figure 1.3 (which largely occur in Scotland) partly reflect differences in service availability and instability of official indicators among small populations (see also Furst & Beckman 1981).

Figure 1.3 RATES OF ALCOHOL PROBLEMS IN BRITAIN

(Source: Kilich and Plant 1981)
corrected version

1.2 The Present Study

The preceding comments suggest that (a) the level of alcohol-induced harm in a society is somehow associated with community drinking levels and (b) that problem rates are greatest in northern areas of Britain. One might therefore predict that mean consumption levels are also higher in northern areas of Britain. But, as will be shown in Chapter 4, the data concerning British regional variations in alcohol consumption patterns are sparse and

contradictory. Indeed, recent surveys suggest that, for both sexes, consumption levels in Scotland are virtually indistinguishable from those south of the border (Wilson 1980a).

Because of the lack of clarity regarding the variations in alcohol consumption and problems within a British context, two projects were designed to account for regional variation in one indicator of problem drinking, namely, hospital admissions for alcohol dependence. Three areas were selected for study because they exhibit marked variations in problem drinking rates. The first study, which led to the award of an M.D. degree at Birmingham University (Latcham 1985) considered the pattern and severity of psychiatric and medical hospital admissions for alcohol dependence. The second study, which is the subject of this thesis, investigated variations in general population drinking habits between the three areas.

CHAPTER 2

THE BEVERAGE ALCOHOL: DISCOVERY, EFFECTS AND SAFE DRINKING LIMITS

2.1 In The Beginning: The Discovery of Alcohol

Alcohol has been described as mankinds "most primitive intoxicant" (el-Guebaly & el-Guebaly, 1981, p.1207), and appears to have originated within several agriculturally based civilisations in India and Egypt, as well as among the Maya of South America (Kroeber, 1939; Loeb, 1943). There is evidence of wild crop gathering from about 10000 B.C. (Middle Stone Age) in parts of Asia and the Near East, and of true farming from about 8000 B.C. (New Stone Age) in southern Anatolia (Turkey) (Unstead, 1983). But the earliest recorded alcoholic beverage is barley beer produced in predynastic Egypt c. 4200 B.C. (el-Guebaly & el-Guebaly, 1981). Wine-making developed much later. Vineyards were planted to provide funerary wines for the ruling clan in dynasties 1 and 2 (c. 3400 - 2980 B.C.) in Egypt (el-Guebaly & el-Guebaly, 1981). Around the same period wines were produced in China (Zhang, 1982) and in Mesopotamia (Forbes, 1954).

Production of the early alcoholic beverages was based upon the process of natural fermentation which, by allowing yeast to act upon ripe fruit or vegetable juices in the presence of sugar, water, air and heat, created alcohol. Thus, in ancient Egypt "beer was made of grain wetted until it began to sprout, then made into a paste, and finally fashioned into partly baked large cakes. These cakes were

broken up into pots filled with water and left for a day or two to ferment. The liquid had to be drunk while fresh as within another day or two it became sour and undrinkable" (el- Guebaly & el-Guebaly, 1981, p.1208).

Because the action of yeast cultures are increasingly poisoned by alcohol, the process of natural fermentation eventually ceases, resulting in a beverage with an upper limit of about 15% pure alcohol. Stronger beverages are produced by means of the distillation processes which uses heat to extract the alcohol from a liquid that contains both alcohol and water. The process, which takes advantage of the different boiling points of alcohol and water was discovered c. 800 A.D. by the Arab Jabir ibn Hayyan who was one of many Moslem alchemists who "sought to capture the so-called 'spirit' of wine" (Leake & Silverman, 1971, p.576).

2.2 The Beverage 'Alcohol'

According to East (1940) the word 'alcohol' comes from the Arabic 'al kohl' which described a fine powder of antimony used for staining the eyes. The term became more generally applied to any fine powder, but also denoted volatile liquids. But "the composition of alcohol, as we know it, appears to have been first declared by the eminent French chemist, Lavoisier .... in conjunction with Laplace .... in 1783" (East, 1940, pp.7-8). Strictly speaking, the beverage alcohol refers to ethyl alcohol or ethanol. Ethanol "is a clear, colourless liquid with a characteristic but weak odour and a strong, burning taste" and

"belongs to the monohydric alcohols which can be considered as being derived from the corresponding hydrocarbon by substitution of one hydrogen atom with a hydroxyl group" (Wallgren & Barry, 1970, pp.17,19, and from whom additional technical information may be acquired). It is also the only member of the alcohol family which can be safely consumed by humans (Greenberg, 1959; Thorley, 1982). But ethanol is almost never consumed in the pure form, and is normally incorporated as an ingredient of brews, wines or distillates. For the remainder of this thesis, the term 'alcohol' will refer to such beverages individually or generically.

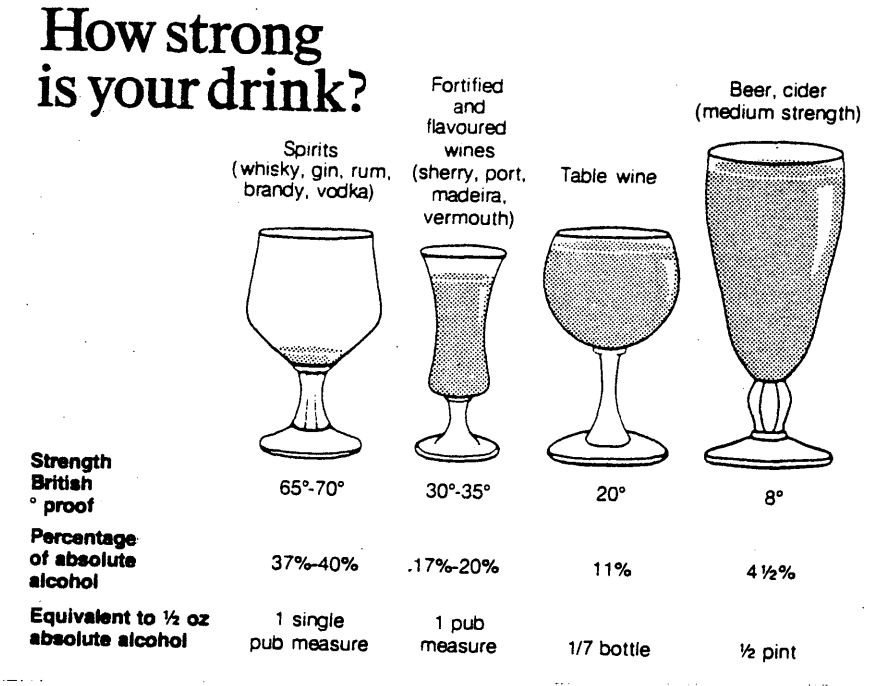

Figure 2.1:

Source: Adams & Leitch (1978)

The ethanol content of alcoholic beverages may dramatically differ (Figure 2.1). According to the Guinness Book of Records, 1981 Edition (McWhirter & Greenberg, 1981 p.81) "the weakest liquid

ever marketed as beer was a sweet Ersatz beer which was brewed in Germany by Sunner, Colne-Kalk, in 1918. It has an original gravity of 1000.96° and a strength 1/30th that of the weakest beer now obtainable in the United Kingdom". The world's most potent beverage, a potato distillate containing 98% ethanol was marketed by the Estonian Liquor Monopoly (1918-1940).

2.3 Acute Effects of Alcohol Use

Almost all of the ethanol contained in an alcoholic drink passes unchanged into the bloodstream. Once absorbed ethanol acts "on neural, hormonal, and metabolic systems. Ethanol modifies each system and also alters the complex interactions between various physiological effector and regulatory systems" (Wallgren & Barry, 1970, p.155). The approximate effects of increasing blood alcohol concentration (BAC) is shown in Table 2.1.

Table 2.1: States of Intoxication

Blood alcohol concentration mg per 100 ml blood	Approximate effects for average tolerance
20	Enhanced sense of well-being Reaction times reduced
40	Mild disinhibition: reduced driving ability at speed
60	Mild impairment of judgement and decision-making
80	Physical coordination dimished; UK legal driving limit
100	Deterioration in social and physical control
150	Observable intoxication; amnesic episodes possible
350	Incontinence; sleepiness
500+	Coma, breathing difficulties and death

Source: Thorley (1982)

Alcohol has a rapid depressant effect upon the central nervous system. This depressant effect is magnified with increase in BAC. It also initially causes a small increase in heart rate, and dilates blood vessels in the skin. This results in its characteristic flush and feelings of warmth (Royal College of Psychiatrists, 1979; Maisto et al, 1980). Increasing levels of consumption leads to a greater degree of impairment of steadiness (Moskowitz & Burns 1976), poorer physical co-ordination (Vuchinich & Sobell 1978), slower reaction times (Connors & Maisto 1980); increased risk taking (Teger et al, 1969: Katkin et al 1970); changes in mood (Freed, 1978) etc. Driving skills can be affected at BACs of 20mg/100ml blood (equivalent to one pint of beer in the average male), and seriously impaired at 80mg. This is the legally defined level of intoxication in regard to drinking and driving in a number of countries including Britain.

Even among social drinkers acute doses of alcohol often have longer term adverse consequences, the most well-known being 'hangover' (i.e. nausea, dehydration, depressed mood, headache etc) (Thorley, 1982). Social and alcoholic drinkers may also experience subtle but nevertheless measureable decrements in cognitive functioning as a result of their drinking (Parker et al, 1974; Parker & Noble, 1977; Parker et al, 1980; MacVane et al, 1982; Parker, 1982). Intoxicated individuals are also particularly likely to be involved in road accidents (e.g. Havard, 1977); admitted to medical or emergency inpatient units (e.g. Barchha et al., 1968; Murray, 1977; Lang & Mueller, 1976; Quinn & Johnston, 1976; Lennox & Tait, 1979; MacIntyre, 1979; White, 1980); and to be arrested for

criminal acts (cf Greenberg, 1982). Very high BACs (i.e. in excess of 500mg%) normally result in death.

It should be emphasised that the effects listed in Table 2.1 are only approximate for each listed BAC. Indeed Thorley writes that "becoming drunk is a highly circumstantial process and is only loosely correlated with specific blood alcohol concentrations. Thus some individuals become verbose, humorous and loose tongued, whilst others become more passive and morose" (1982, p.37). There are many reasons for this variability of effect. Firstly, many of the reported effects of alcohol are influenced by drinking practice. Deterioration in performance on a variety of cognitive and performance measures is influenced by drinking rates (Jones & Vega, 1973; Moskowitz & Burns, 1976); time of day and phase of circadian cycle (Jones, 1974; Jones & Paredes, 1974; Brick et al., 1984); phase of intoxication curve i.e. ascending or descending BAC (Young, 1970; Jones & Vega, 1972; Jones, 1973), by drinking experience (Lubin, 1979); and adaptation (Hurst & Bagley, 1972). Nutritional factors can alter alcohol metabolism rates. Protein malnutrition, for example, can retard rates (Lelbach, 1974). Beverages containing 15-30% alcohol (e.g. fortified wines) are absorbed more quickly than either weaker drinks such as beers or ciders or stronger undiluted drinks (Thorley, 1982).

Secondly, there are many instances of biological influences upon the effects of alcohol. For example, because of their lower body weight and lower total body water content women will, when given the same amount of alcohol as men, show faster rates of

absorption and elimination of alcohol, and a higher peak BAC (e.g. Myrsten, 1977). This is particularly pronounced among pre-menstrual women (Jones & Jones, 1976). Many orientals and some American Indian tribes are especially prone to the 'flushing reflex' (Goedde et al 1980; Agarwood et al 1981; Harada et al 1982) which is "a facial flush and temporary reddening of the face, neck and upper chest with as little as one drink" (Kitano et al, 1983, p.10). The precise reason for this is unknown but it is assumed to be the result of an accumulation of acetaldehyde (Cohen, 1979; Harada et al 1982) which creates reactions similar to those from Antabuse. Irrespective of causation, it has been argued that because of the unpleasant effects many Asians either abstain or tolerate small amounts (Kitano et al 1983; Suwaki & Ohara 1985). However, behavioural and metabolic tolerance to alcohol appears to increase with prior drinking among members of various ethnic groups (Wilson et al., 1984). Moreover, Johnson et al (1985) report that in Hawaii flushing has only a minimal influence on alcohol consumption.

Thirdly, social and cultural factors. It is traditionally argued that alcohol influences behaviour by virtue of its direct or indirect physiological effects. For example, it has been claimed that alcohol directly induces aggression by virtue of an 'energising' effect on general activity level (Barry et al, 1965), aggressive fantasies (Kalin et al, 1965) and the need for power and dominance over others (McClelland et al, 1972); or that it has an indirect influence in that it disinhibits people by reducing fear and anxiety, thereby lowering the impact of the outcomes, physical and social, of aggression (e.g. Kastl, 1969; Williams, 1966;

Mayfield, 1968). These explanations have not been well supported in either human or animal studies (Cappell & Herman, 1972; Cappell, 1975; Marlatt, 1976). Indeed, there is a growing body of research (Chapter 5.3.3) demonstrating that many of the behavioural sequelae of drinking alcohol are influenced by culturally transmitted expectations concerning its effects.

2.4 Chronic Effects of Alcohol Use

Regular heavy or excessive consumption of alcohol is associated with many physical, social and legal complications. (e.g. Lelbach, 1974; Collins, 1982; Edwards, 1982; Latcham, 1985; Crawford, 1985; Crawford & Ryder 1985). Examples of each will be briefly discussed.

2.4.1 Physical Complications: Prolonged excessive drinking has been associated with damage to many organs and with many diseases and illnesses (e.g. Salum, 1972; Lelbach, 1974; Edwards & Grant, 1977; Royal College of Psychiatrists, 1979; Clark & Kricka, 1980; Edwards, 1982; Thorley, 1982). Alcohol may cause damage by direct toxic action, or through indirect effects. For example, liver cirrhosis is directly linked to duration and quantity of alcohol consumed (e.g. Lelbach, 1974), but may be influenced by other factors such as diet (Thomson et al, 1980). Nutritional deficiency, however, appears to be the major aetiological factor in most neurological diseases associated with alcohol dependence (e.g. Ron, 1977; Thomson et al, 1980).

A brief consideration of two major locii of physical harm will

offered. Firstly, the most commonly investigated organ damaged by alcohol is the liver (Lelbach, 1974; Ashley et al, 1981). That the organ is of such importance can be observed from the fact that it is responsible for the oxidation and removal of about 95% of all alcohol ingested, the unaltered remainder being eliminated as urine or sweat (Thorley, 1982). Lelbach (1974) in a review of experimental studies has noted that ethanol is generally eliminated from humans at the rate of about 50 - 180 milligrams of ethanol per kilogram body weight per hour (mg/kg.hr) (equivalent to 1 quart of 100 US proof whisky per day at 70kg body weight) (Newman, 1949). The healthy liver can, however, only metabolise about 80gm of ethanol (equivalent to about 5 imperial pints of ordinary commercial beer) for men and about 40gm for women over a 24 hour period (Thorley, 1982). Beyond this level minor damage may occur. The normal liver takes about 72 hours to recover, but this is prevented if another excessive dose is taken within that period.

Prolonged excessive drinking initially leads to the development of fatty liver (deposits of fat), which may be followed by alcoholic hepatitis (inflammation), liver cirrhosis (irreversible scarring) and ultimately by either liver failure or hepatoma (cancer) both of which are virtually untreatable (Lelbach, 1974; Williams & Davis, 1977; Nicholson, 1980; Thorley, 1982). Fatty liver can be produced, even among persons who are not physically dependent upon alcohol, by giving them in excess of 140g of alcohol daily for as little as two weeks (Lieber et al, 1965). Indeed, Rubin & Lieber (1968) report that fatty changes could occur after two days when the daily consumption was 270g. Alcoholic hepatitis has been

produced by giving even larger daily quantities of alcohol for periods of up to five weeks (Leevy, 1967). Normally liver cirrhosis only develops after at least five years excessive drinking (Lelbach, 1974) and appears to be a feature of steady heavy drinking rather than occasional binges (Brunt et al, 1974).

Not every heavy drinker develops liver problems. Galambos (1974) has, for example, estimated that only 30% of such individuals develop alcoholic hepatitis and 10% cirrhosis. Indeed up to one third may have no demonstrable liver abnormality (Williams & Davis, 1977). Conversely, not every instance of liver cirrhosis is associated with heavy drinking. In a recent review of 25 studies conducted in 11 countries de Lint & Schmidt (1976) noted that the percentage of "chronic excessive alcohol users in samples of patients with a diagnosis of liver cirrhosis" (p.281) ranged between 18 - 89%. They suggest that the variation between studies may partially reflect differences in definitions of excessive alcohol use and alcohol dependence employed, in addition to differences in among other things response rate and time. Social class, sex and usage of other drugs also appear to be important determinants of liver damage (Krasner, 1980; Ashley et al., 1981).

Secondly, brain damage. Recent reviews have documented a growing body of literature delineating cognitive impairment, cerebral atrophy and dementia among problem drinking populations (e.g. Tarter, 1975, 1976; Ron, 1977; Miller & Saucedo, 1983; Crawford, 1985). Such impairment appears to be restricted to specific as opposed to global functions, and has been associated

with aspects of "motor performance, perceptual capacities, conceptual shifting, memory function and visual-spatial abstracting abilities" (Crawford, 1985, p.3). Miller & Saucedo (1983) suggest that alcohol-related brain damage frequently occurs prior to the overt appearance of other medical signs. Indeed, as was noted earlier, cognitive functioning among social drinkers may be adversely affected following the consumption of relatively modest amounts of alcohol (Section 2.3). Many of these cognitive deficits (e.g. O'Leary et al, 1977; Guthrie & Elliot, 1983) and possibly neurological impairments (e.g. Wilkinson & Carlen, 1980) appear to be at least partially reversible following abstention. Miller & Saucedo (1983) in an extensive review conclude that the likelihood and extent of recovery is dependent upon age, the deficit investigated and duration of follow-up. The best prognosis appears to be for younger and less severe problem drinkers (e.g. Bennett, 1960, 1967; Tarter & Jones, 1971).

2.4.2 Social complications: Chronic alcohol abuse may disrupt virtually every aspect of a drinker's social life. Two areas will be considered. Firstly, employment status and work performances. Fourcier (date unknown) in a review of 16 studies has shown that identified alcohol dependents have particularly high unemployment rates. Many heavy and dependent drinkers, however, remain in employment (Roman & Trice, 1976; Hore & Plant, 1981), but tend to be less efficient than other workers. They perform less well in physical, organisational and decision-making tasks; suffer more hangovers; are more likely to be absent from part or all of a working day; are more likely to be involved in an industrial

accident; and their erratic and less competent behaviour may also undermine the performance and morale of co-workers, and lead to 'embarrassment' of their company (Roman & Trice, 1976; Hore, 1981). Certain occupations are particularly associated with increased risk for heavy and problem drinking, partly because of the nature of the occupation (e.g. alcohol availability, pressure to drink, freedom from supervision, stress etc) and partly because of pre-selection of 'high-risk' people (Plant, 1979, 1981).

Secondly, alcohol abuse is widely believed to be implicated in marital disharmony. In a recent review Jacob & Seilhamer (1982) reported that 45% of all problems brought to the family court in the USA involved alcohol and that at least 33% of problem drinkers experienced marital discord because of their drinking. The Royal College of Psychiatrists (1979) recently quoted a survey which found that 30% of members of Alcoholics Anonymous had broken marriages because of their drinking. Excessive drinking may disrupt family life in a number of ways - increased financial hardship, quarrelling, violence, child abuse, sexual problems, infidelity etc (e.g. Jackson & Kogan, 1963; Haberman, 1965; Ablon, 1976; Orford et al, 1976; Orford, 1977; Byles, 1978; Hamilton & Collins, 1982; Johns, 1982; Wilson, 1982; Bancroft, 1983; Morris, 1984). Families containing an excessive drinker are likely to be highly stressed, with wives (there has been little research investigating husbands of alcohol dependent wives) exhibiting increased anxiety (e.g. Bailey, 1967) and offspring, conduct disorders (e.g. Chafetz et al, 1971; Wilson, 1982). Such families are also likely to become socially isolated (Jacob & Seilhamer, 1982; Wilson, 1982), and to be

stigmatised (Stafford & Petway 1977).

2.4.3 Legal complications: There is a very large literature concerned with alcohol and crime (cf Collins, 1982; Myers, 1982). Numerous studies have shown that many violent and non-violent offenders (and often their victims) were drinking prior to the criminal event (e.g. Shupe, 1954; Bartholomew, 1968; Mayfield, 1976; Herjanic & Meyer, 1977; Byles, 1978; Myers, 1982); that many criminals are heavy or dependent drinkers (Banay, 1942; McGeorge, 1963; Bartholomew, 1968; Gibbens & Silberman, 1970; Edwards et al, 1971; Goodwin et al, 1971; Rada, 1975; Crawford et al, 1982; Myers, 1982); and that many problem drinkers are criminals (e.g. Pittman & Gordon, 1958; Bartholomew & Kelley, 1965; Lindelius & Salum, 1973, 1975, 1976).

There are a number of sampling and definitional problems which preclude simple interpretation of these studies. For example, estimates of the degree of association between alcohol and crime is dependent upon the population studied (Gibbens & Silberman, 1970; Greenberg, 1982). Much of literature has investigated prison or hospital samples, thereby leading to underestimates of alcohol involvement in the criminal event. Moreover, the fact that the criminal justice process is highly selective, with personal offences being most likely to lead to incarceration biases such samples (French, 1977). Indeed much crime goes unrecorded (Myers, 1982). Furthermore, the proportions of criminals who are alcohol dependent and of alcohol dependents who are criminals is highest among prison populations (Greenberg, 1982).

The literature also suffers from the considerable variation in the definition and classification of both alcohol use and criminality (cf Gibbons, 1965, 1975; Bartholomew, 1967, 1968; Blane, 1968; Rubington, 1969; Edwards et al, 1971; Greenberg, 1982). There has also been a general failure to specify and test theoretical models to account for the relationship between alcohol and crime. Many authors implicitly propose simple causal models, and ignore the many possible direct and indirect relationships (Seliger, 1951; Blane,1965; Pernanen, 1976, 1982).

2.5 Drinking Limits

It is clear from the preceding comments that there are risks involved in drinking alcohol. All other things being equal, the risk of sustaining damage (however defined) increases with consumption. This begs two rather obvious questions:

2.5.1 Is there a safe drinking limit? There is widespread agreement that moderate drinking does not carry any increased morbidity risks (e.g. Royal College of Psychiatrists, 1979). Indeed, it has even been observed that teetotalers show greater mortality risks than light drinkers (see Kreitman, 1982 for review). But it is also agreed that there is no absolutely safe limit for drinking alcohol. Nevertheless, there have been several consumption thresholds proposed for the onset of hazardous drinking.

In 1979 the Royal College of Psychiatrists offered the much quoted 'informed guess' that "an intake of four pints of beer a day, four doubles of spirits, or one standard-sized bottle of wine constitutes reasonable guidelines for the upper limit of drinking. It is unwise to make a habit of drinking even at these levels, and anyone driving a vehicle should not drink at all before driving" (p. 140). This is equivalent to 56 units (see Figure 2.1 for definition) of alcohol in a week. No distinction was drawn between limits for either sex. However, basing their arguments upon this limit, and after allowing for under- reporting by heavy drinkers, others have suggested 50 units in a week for men and 35 for women (Wilson, 1980b; Harbison & Haire, 1982). More recently the Health Education Council (1983) has revised these limits downwards to 21 and 14 units respectively. This latest proposal appears to have completed the circle from Anstie's proposal in 1870 that a weekly intake equivalent of 24 units was "about the limit of what can be habitually taken . . . without provoking symptoms of chronic malaise".

Anderson (1985) has noted that it is not clear how the above limits were arrived at and suggests that "they may well have been as much a matter of intuition as of science" (1985, p. 9). Moreover, it should not be assumed that these values indicate a consensus among or between academics, helping professionals or the general public. Wide variation in proposed limits have been recorded among 'alcohol experts' (Anderson et al., 1984; Anderson, 1985) and G.P.s (Wallace et al., 1985). On average, the alcohol experts proposed limits which were significantly higher than the G.P.s (mean: males =

30.9 vs 17.9 units; females: 19.4 vs 13.4 units). But the figures for both groups were considerably lower than those offered by lay people (Budd et al., 1983; Anderson, 1985; Breeze 1985) and by several of the above noted authorities (Royal College of Psychiatrists, 1979; Wilson, 1980b; Harbison and Haire, 1982).

This confusion reflects, among other things, the paucity of experimental data concerning the effects of different consumption levels upon health (Popham & Schmidt, 1978; Anderson, 1985). The appropriateness of a particular limit depends upon many factors. It has already been noted that different effects typically occur when acute as opposed to long term consumption patterns are considered (sections 2.3 and 2.4). Indeed, the compression of a weekly safe drinking limit into one or two sessions may result in any of the above noted acute effects. Moreover, the same consumption level or pattern produces effects which not only depend upon the domain considered (social, cognitive, physical, legal) but also upon the individual (adult vs child; male vs female; experienced vs inexperienced drinker). Because of this Grant (1984) has offered a safe limit gradient, which is based upon the premise that the safe limits of daily consumption increases with body weight.

By now it is obvious that there is no single, overall safe drinking limit. But this is too complex a message for the purposes of health education. Singular limits are therefore deployed as simple, if often conservative, guidelines towards safer drinking (or, conversely, of the limits of acceptable risks). This does not entail that were all who exceeded stipulated safe limits to drop

below them, all alcohol-related problems would disapear. For, Kreitman (1985) in a re-analysis of several recent surveys (including the present study) , has demonstrated that though heavy drinkers are at a considerably greater risk for alcohol-related problems than are light or moderate drinkers, the bulk of those who actually report problems come from the latter groups.

2.5.2 Are alcohol dependents simply heavy drinkers? It is not disputed that alcohol dependents typically report consumption levels which are far in excess of either recommended safe limits or of general population averages. Weekly totals of greater than 100 units were recorded for either sex in Latcham's (1985) companion survey of alcohol dependent inpatients. Nor is it disputed that not all heavy drinkers are alcoholics. There are, however, a number of continuing debates concerning the definition of 'alcoholism'. Basically these debates centre around the utility of the disease model of alcoholism (e.g. Keller, 1976; Kendell, 1979); the merits of the term 'alcoholism' as opposed to, say, 'problem drinking' or 'dependence' (Bacon, 1976; Shaw, 1982); the appropriateness of advocating controlled drinking rather than complete abstinence for recovering alcoholics (e.g. Heather and Robertson, 1981); and whether preventive measures should be directed towards heavy drinkers only or towards reducing consumption in the population as a whole (Grant and Ritson, 1983).

Rather than plough through the many definitions (and their critiques) of alcoholism which are currently on offer (e.g. WHO, 1951; Jellinek, 1960; National Council on Alcoholism 1972; Edwards

and Gross, 1976), the standpoint taken for the remainder of this thesis will be as Paton & Saunders' argument that "the term 'alcoholism' is unsatisfactory because it implies a single disease. There are many different types of alcohol abuse, and a whole range of physical, psychological, and social problems is associated with excessive drinking", but nevertheless admit that the term is "a convenient shorthand to indicate repeated consumption of alcohol leading to dependence, physical disease, or other types of harm" with the caveat that "in any one individual these are not necessarily directly related to the quantity of alcohol drunk, since such factors as constitution, social background, occupation, pattern of drinking, and dietary habits contribute to individual susceptibility" (1981, p. 1248). The studies reviewed in this thesis variously employ the terms 'alcoholism', 'alcohol dependence', 'problem drinking', 'alcohol-related problems' etc. For the reasons noted above, the term 'alcoholic' will only be used when it is specifically employed by authors.

2.6 Summary

Alcohol, which is a widely employed intoxicant of ancient origin, has recently been described by the British Medical Association as "the most powerful depressant of the central nervous system available in this country without a doctor's prescription. If it were being introduced now, it would be a controlled drug" (Havard, 1985). When taken in moderation alcohol generally presents few major risks for drinkers. But immoderate drinking levels or patterns are associated with many acute and chronic

adverse consequences.

CHAPTER 3

DRINKING IN THE COMMUNITY : METHODOLOGICAL ISSUES

There are a number of means by which alcohol consumption levels may be measured, or by which heavy and problem drinkers can be identified within the general population. Room (1985) has identified two main strategies for measuring drinking habits within general population surveys (1) quantity-frequency based summaries of current drinking patterns and (2) factual records of recent drinking occasions. The former strategy is generally employed in North America and the latter in British and Scandinavian research.

3.1. Quantity-frequency measures

A number of scales have been devised to classify individuals in terms of their 'usual' drinking behaviour over a given time period (Room 1985). The simplest method considers only usual frequency of drinking (e.g. ranging from "never" to "3 or more times a day")* and amount (e.g. ranging from "1-2" to "5-6 drinks per time")* consumed per period. This can be seen in Straus & Bacon's (1953) original quantity-frequency (Q-F) index which classified individuals as abstainers or as light, moderate or heavy drinkers. To do this respondents provided "usual" quantity and frequency estimates for

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* Examples taken from Cahalan et al (1969).

three beverages (beer, wine, spirits). These estimates were multiplied together separately for each beverage before being summed to provide a Q-F score for all beverages.

Critics (eg Knupfer 1966) have argued that such an index is insensitive to variability in drinking patterns. More recent formulations have therefore been developed to account for variability. For example, Cahalan et al (1969) developed two measures. The Q-F-V (quantity- frequency- variability) index, like the Q-F index measured the frequency of consuming a given amount per occasion. Variability was measured in terms of usual amount consumed, and of maximum amount at least occasionally consumed. As before, individuals were thereafter classified as abstainers, or as infrequent-, light- moderate- or heavy-drinkers. Secondly, the V-V (volume-variability) index classified drinkers in terms of average daily volume of alcohol (by means of Q-F estimates) and by maximum volume consumed over a given time period. This created a six point classification of drinkers in terms of volume (high, medium, low) and maximum amount (high, low). Two further categories, namely "abstainers" and "infrequent" drinkers were included in the scale. Cahalan et al (1969) found V-V to be a more sensitive index than Q-F-V.

All three indices (Q-F, Q-F-V, V-V) have been criticised for employing broad and arbitrarily delimited ordinal scales which preclude fine distinctions between different levels (e.g. Cahalan & Cisin, 1968; Edwards et al, 1972; Bowman et al, 1975). Indeed, the fact that the criteria for classifying respondents by their drinking

behaviour are not uniform effectively prevents meaningful comparisons between studies even when the same underlying scores are used (Room 1985). Moreover, such indices are not suitable for parametric statistical analyses. In consequence a number of alternative systems have been developed which refer to absolute quantities of alcohol. All were developed from one or other of the above indexes and include the V-P (volume-pattern) index (Bowman et al, 1975); the A-A-P-Q (absolute-alcohol-quantity-pattern) index (Little et al, 1977); the KAT (Khavari Alcohol Test) (Khavari & Farber, 1978; Khavari et al, 1979); and various A-A (absolute alcohol) indices (e.g. Jessor et al, 1968; Vogel-Sprott, 1974). But since quantity-frequency measures were initially developed to classify drinking patterns and behaviour, attempts to convert these results to average or actual consumption measures (e.g. A-A scores) are a misapplication (Duffy, 1982). Such attempts create bias by multiplying together measures which are in themselves inexact, and indeed which may be interrelated.

There are additional problems inherent in quantity-frequency scales (or their derivations). For example, 'usual' may be interpreted as 'modal' thereby leading to bias if the distributions of frequency and quantity within individuals are skewed (Duffy 1982). Q-F measures are susceptible to response-category effects arising from the differential interpretation of questions by respondents (Duffy 1984). By assigning Q-F status only in terms of the most frequently consumed beverage, many studies effectively under-estimate consumption (Caetano et al 1982a).

Q-F measures are also subject to various temporal difficulties. Many studies refer to a variable time period with an upper limit of 12 months. Others have investigated lifetime consumption by retrospectively applying Q-F measures to crucial times during an individual's drinking career (e.g. Dunham 1981, 1983). These are not only open to memory problems but also to bias when quantity and frequency items which refer to different time periods are averaged to provide consumption rates (Duffy 1984). Q-F measures are also relatively insensitive to alterations in consumption patterns over time. For example, whereas factual records of drinking patterns detected individual increases in consumption levels over a three year longitudinal study of the Shetland Islands, no changes were found using Q-F measures (Caetano et al 1982 a,b,1983).

It has been argued that errors in different directions (i.e. over- and under-estimates) cancel out to result in relatively accurate group measures. That is, it is claimed that the measure may have group rather than individual validity (Armor et al, 1978, p.178). But this assumption requires further testing.

3.2. Factual Records of Recent Drinking Occasions

3.2.1. Fixed Time Periods (or retrospective diary): Various studies have ascertained factual records for periods ranging up to 30 days (Armor et al 1978; Anderson 1984; Sobell et al 1979, 1982). The majority of recent British general population surveys have investigated every drinking period over the week prior to the interview date (see Chapter 4.1). Dight (1976) suggests three major

advantages for obtaining a factual record of alcohol consumption over the previous week. Firstly, a factual record is not subject to the bias associated with asking respondents to assess their own "usual" drinking behaviour. Secondly, by concentrating upon a relatively short time period memory problems are reduced. And thirdly, more detailed analyses of consumption patterns and contextual features are permitted.

For this method respondents are questioned about their drinking on the day immediately prior to the interview, and thereafter about each of the preceding six days in reverse temporal order. Information in respect of beverage type and quantity, time of commencement and conclusion of drinking period, and companions and locations are normally collected. Memory prompts (such as "what did you do yesterday?", "whom did you meet yesterday?" "what do you normally do on that day?") are employed to jog the interviewee's memory (for greater details see Appendix G, for interviewer instructions package used in present study). Waterton & Duffy (1984), however, recently reported a computerised study in which estimates of consumption ascertained via application of a simple questionnaire with no prompts, were similar to those obtained by a more detailed questionnaire with standard prompts. It was concluded that the use of prompts in standard surveys may be unnecessary; or, that in practice interviewers did not adequately use prompts.

As will be observed in Chapter 4, the majority of respondents in British general population surveys report at least one drinking occasion during the last week. Those who did not drink last week

are normally asked about one or more specific drinking occasions over a longer time period. (In the present study, those who did not drink last week, but who were not complete abstainers, were asked to describe their last drinking occasion during the past 12 months.) The majority of British surveys, however, by failing to publish these consumption data effectively eliminate such people from their analyses. Duffy (1984) suggests that this waste of resources may be reduced if only those who did not drink in the past week and who reply in answer to an additional question that they do not normally drink on a weekly basis are excluded from analysis. However, given that many general population surveys investigate the relationship between alcohol- related problems and consumption, and given that infrequent drinkers tend to report a low rate of consumption, Duffy (1984) also suggests that their effective exclusion from subsequent analyses may not be an important loss.

Recall is improved by limiting the period of enquiry to the last seven days. But such a short period may not be a reliable indicator of recent drinking habits. Dight (1976) in a survey of drinking in Scotland found that, of those who drank last week, 33% of males and 39% of females declared it to be "atypical", with the majority stating that they had taken more than usual. Those who did so reported a higher than average level of consumption for that week. But Chick et al (1981) in a more recent survey of male brewery workers found that such people reported trivial differences between "last week" and a "typical week" and hence appeared to deny heavy drinking. And Latcham (1985) in the companion study found few differences between "last week" and a "typical week" for inpatient

alcohol dependents in the three areas.

3.2.2. Variable Time Periods : Surveys which investigate alcohol consumption over a fixed time period are of most value when the majority of a target population drink during that period. A survey of drinking in the last week would not be particularly informative were the majority of respondents not to have consumed alcohol during that period. To permit assessments of drinking within populations in which sporadic drinking is normative, several studies have investigated consumption over a variable time period. For example, the 1968/9 Finnish ALKO Study (Makela, 1971) required respondents to describe up to four drinking occasions, while recent Polish surveys have investigated the last drinking occasion (Jasinski 1985). The major difficulty with such an approach is obviously that of recollection of distant drinking events. Such studies suffer from telescoping errors in which distant drinking occasions are recalled as having occurred recently. Moreover, Room (1985) reports that several studies show that frequent drinkers are more likely to space out occasions while infrequent drinkers telescope them. And Makela (1971) found that in the ALKO study, heavy drinking occasions were more likely to be remembered than occasions of light drinking. This results in underestimates of annual consumption and overestimates of average consumption per occasion.

3.3 Other Population Survey Methods

3.3.1 Time-series Studies

Various studies conducted in Scandinavia (Ekholm 1968) and New Zealand (Gregson & Stacey, 1980) have employed the time- series method to estimate an individual's daily consumption rate. For this method respondents indicate the quantity consumed on the last drinking occasion, and the time between that and the previous occasion. Thereafter a daily drinking rate can be easily computed. Such approaches have, however, been heavily criticised for bias (Ekholm, 1969; Skog, 1981; Duffy, 1982). Indeed, Duffy (1982) describes the method as "extremely unsatisfactory".

3.3.2 Household expenditure surveys : in these surveys one member of a household reports upon weekly household expenditure for, among other goods, alcohol (e.g. Department of Employment, 1983). The utility of such figures are, however, diminished by the fact that they refer only those who live within families, and in so doing exclude many heavy drinkers who are of no fixed abode. Moreover, such surveys are generally answered by housewives who often do not know how much their husbands spend upon alcohol; the figures refer only to family and not to individual expenditure; and finally they make no allowance for the varying cost of alcohol throughout a country (Kreitman, 1977).

3.3.3 Informant methods : this method was originally designed for use with small, non-literate populations by anthropologists, but was

later adapted for large, literate societies by Jellinek (Popham, 1976). Essentially a group of key informants report upon the drinking practices of other group members (Liban & Smart, date unknown).

3.3.4 Randomised response technique : this technique was devised to overcome under-reporting in population surveys because of lack of anonymity (Warner, 1965; Campbell & Joiner, 1973). Effectively respondents are asked two questions, one of which relates to a sensitive issue and the other to an innocuous one. The respondent is directed to answer one of the questions on the basis of a coin toss. They may freely answer 'yes' or 'no' to the question, but do not reveal which question is answered. The proportion of persons who answered 'yes' to the sensitive question can be determined by the use of a probability equation.

3.4. Sources of Bias

Various reviews (Pernanen, 1974; Wilson, 1981; Duffy, 1982) suggest that there are three sources of error common to all of the above noted methods for quantifying or classifying drinking habits:

a) sample frame defects
b) non-response by heavy drinkers
c) under-reporting of consumption

These and one additional error source will be briefly discussed.

3.4.1 Sample frame defects : the validity of a survey may be

undermined if it either misses or inadequately samples the target population (Moser & Kalton, 1979). This may occur for a variety of reasons. For example, the majority of major British general population surveys conducted within the past 15 years have randomly selected their pool of respondents from the Electoral Register (cf Yates et al, 1984). Pernanen (1974) suggests that heavy drinkers often cluster into certain districts (e.g. 'skid row'). The likelihood of their being sampled within a random survey is therefore low. Moreover, such drinkers are often resident in institutions such as the armed forces, hospitals, prisons, college etc, or are homeless. These and adults below 18 years are excluded from the Register. It is, however, possible to compensate for such omissions by including supplementary sampling frames within the survey (e.g. Dight 1976).

3.4.2 Non-response by heavy drinkers : It is frequently argued that heavier drinkers who are included within a sampling frame are not only harder to locate, but also more likely to refuse an interview (e.g. Kish 1965; Pernanen, 1974). But the evidence is inconclusive. Recent Scandinavian surveys have shown that non-respondents in Sweden were three times more likely to have a police record for drunkenness than were respondents (Nilsson & Svensson, 1971) and that Finnish alcoholics who were difficult to contact were 'most far-gone' (Ahlstrom-Laakso 1975). Wilson (1981) found that respondents who were difficult to contact (i.e. required four or more attempts to make contact) in a survey in England and Wales typically consumed more than average (after controlling for sex).

On the other hand, Westerhoven (1978) investigated non-contacts and refusals in a non-alcohol survey of Dutch housewives and found that, in common with other surveys, "confirmed refusers" were very rare (approximately 5%). And concluded that "a sample not involving repeated calls is very similar in socio-economic composition to a sample involving intensified efforts" (Westerhoven, 1978, p.144). Plant et al (1980) compared data from two identical surveys of consumption by industrial workers in Scotland which produced dramatically different response rates and found no important differences in self-reported socio-economic status, alcohol consumption, or alcohol-related problems. Caetano et al (1983) found no significant differences in age, sex or residence between respondents and refusers in Shetland. And Mulford & Miller (1959) reported that refusers in a study of Iowa did not differ from those in the main sample by age or sex and suggested that abstainers may have been most likely to refuse to participate.

3.4.3 Under-reporting of consumption : Under-reporting may occur principally because respondents either forget or deliberately lie about their drinking habits. Each will be discussed briefly, though it should be noted that there may be overlap between both causes. Respondents may, for example, deliberately report that they forget rather than provide a specific answer to a question. It should be noted that though the literature tends to concentrate upon under- rather than over-reporting, the latter can occur (e.g. Midanik 1982a).

3.4.3.1 Forgetting : The effect of forgetting varies with the drinking measure employed. Bruun (personal communication to Pernanen, 1974) found that in Finland, respondents tended to underestimate frequency of drinking, and to over-estimate the quantity consumed on a typical drinking occasion. Several studies have estimated memory loss for the week prior to interview by assuming complete recall of the previous day and comparing that day with responses for the remaining days of the week. These studies have shown that, for males and females combined, 16% of all drinking occasions were forgotten in a Canadian Survey (Pernanen 1974), as were 9% of occasions and 8% of consumption in England and Wales (Wilson 1981), and 15% of occasions and 17% of consumption in Australia (Millwood & Mackay 1978).

Makela (1971) in a Finnish study, has shown that when compared to the number of reported drinking occasions in the week (days 1-7) prior to interview, 24% are forgotten for the second week (days 8-14). After a two month interval 40% of all occasions reported in that first week were remembered. Heavier drinking occasions were most likely to be remembered. Poikolainen & Karkkainen (1983) have reported that over a period covering no less than six weeks, estimates of daily consumption were 60% greater from daily drinking diaries as compared to estimates from repeat questionnaires. Simpura & Poikolainen (1983) reinterviewed Finnish males 18 years after an original survey of their drinking habits. On average (but with wide variations) respondents overestimated their earlier consumption by 76%. It was concluded that such lengthy retrospective interviews were unreliable because of memory problems.

3.4.3.2 Selective reporting : Pernanen (1974) suggests that deliberate under-reporting of alcohol consumption may occur because of stigma associated with excessive alcohol use and its behavioural effects (Popham 1970; Bailey et al 1965). The extent of under-reporting is influenced by specific aspects of the interview situation, in addition to interviewer and interviewee characteristics (Cisin 1963).

Lower proportions of drinkers have been reported in surveys using face-to-face as opposed to mail or telephone interviews (Hochstim 1962); when interviewer and interviewee are of the same sex (Mulford & Miller 1959); or when interviewers are abstainers (Mulford & Miller 1959; Mulford 1964). Moreover, reduced self-reported consumption levels have been found when male respondents are interviewed by females (Kirsch et al 1965; Cosper 1969); when interviewers are light or infrequent drinkers (Cosper 1969); when other family members are present (Wilson 1981); or when surveys are conducted in legally 'dry' regions of the USA (Room 1971d). Computerised interviewing techniques have been shown to result in increased self-reported consumption levels as compared to human interviewers in general population (Duffy & Waterton 1984) and alcohol dependent inpatient (Lucas et al 1977) studies.

Under-reporting may also occur when inappropriate questions are employed. Poikolainen & Karkkainen (1984) obtained high consumption estimates from alcohol dependents when questions

focussed upon high consumption were used in place of those normally aimed at low/moderate consumption within non-dependent samples. It has been suggested that many of these biases may be eliminated by using disguised drinking questions in surveys (cf Saunders & Kershaw 1978 for discussion) but several studies report no advantage in using such techniques (Edwards et al 1972a,b,c; Plant & Miller 1977).

3.4.4 Hired hand problems: Biases which may be directly attributed to hired field interviewers are less commonly discussed in the alcohol survey literature. These occur when interviewers compromise or even fraudulantly conduct research. Such difficulties have been widely discussed in the general experimental psychological literature (Jung 1971), and are compensated for in double-blind or balanced-placebo studies which administer alcohol to subjects (e.g. Marlatt & Rohsenow 1980). In the context of survey research, interviewers may improperly replace unavailable respondents or falsly record data without actually seeing respondents. Trice and Beyer (1977) report one such example and conclude that the effect may be relatively minor.

3.5 Validity estimates

Midanik (1982b) in a recent review describes a number of means by which the validity of self-reported alcohol consumption may be measured. These include the use of collateral reports, official records, direct observation and chemical and mechanical tests. However, since studies investigating sales data coverage are most

applicable to the present project, attention will be paid to this validity measure only. The measure provides an estimate of aggregate validity and is obtained "by a comparison of the value obtained as a variable for the total sample (such as the mean) with the true value for the sample. Since the true sample value is seldom available, the true value for the population is substituted when independently available" (Pernanen 1974, footnote, p.355). In the context of alcohol surveys, aggregate validity is measured by comparing estimates of per capita consumption from general population surveys with those obtained from national revenue figures.

It has been reported that the coverage of purchases of alcohol from various family expenditure surveys ranges between approximately 20 to 70% (Pernanen 1974). Coverage for surveys of actual drinking behaviour (e.g. de Lint et al, 1970; Makela, 1971; Millwood & Mackay, 1978; Polich & Orvis, 1979; Gregson & Stacey, 1980; Wilson, 1980b) has ranged between about 32 to 85% (Pernanen, 1974; Midanik, 1982b). However, coverage estimates vary with the beverage being considered. For example, the coverage of beer, spirits and wine in Wilson's (1980b, 1981) survey of England and Wales was 60%, 34% and 75% respectively. Armor et al (1978) reported that the coverage of these beverages in an earlier US survey (Harris, 1974) was 29%, 52% and 101% respectively. Moreover, the coverage of particular beverages and of overall consumption is subject to seasonal fluctuations (Fitzgerald & Mulford 1984). By considering data derived from Q-F estimates of consumption from two surveys in Iowa (i.e in 1958 & 1961) with sales records, Fitzgerald & Mulford (1978)

demonstrated that, for example, spirits were more popular during the month of December than in the summer months.

Wilson (1981) has recently estimated the relative effects of the various sources of bias (see sections 3.4.1-3.4.3) upon coverage of alcohol consumption in England and Wales. His findings are reproduced in Table 3.1.

TABLE 3.1 Comparison between adjusted consumption and customs totals

	Standard units[1]	Percentage of Customs totals (%)
Reported consumption	9.24	53
Plus adjustments for memory	10.04	57
Plus deliberate under-reporting	11.16	64
Plus non-response similar to late respondents	11.42	65
Plus "alcoholic non-respondents"	15.09	86

[1] One standard unit is equivalent to a half pint of beer, a single of spirits or a glass of wine

Source : Wilson (1981)

It can be seen that sample frame defects, by accounting for fully 22% of the shortfall in coverage, were the most important

sources of error in that survey. Makela (1971), on the other hand, reports that deliberate under-reporting was the largest single biasing factor in the 1968/9 ALKO study. In that survey, a response rate of 96.7% was recorded. And Room (1971a) attributed wide regional variations of coverage within a national US survey to deliberate under-reporting. Those areas with the lowest coverage also had the lowest levels of consumption, and were traditional strongholds of temperance sentiments. They were also presumably less accepting of drinking per se. Moreover, Cooke & Allan (1983) in a recent survey of Glasgow found that lying reduced self-reported consumption in the past week by between 46-65%. On the other hand, Mulford & Miller (1959) found that the major source of bias in a 1958 survey of Iowa was interviewer drinking habits.

The issue of the relative importance of the contributions of sampling bias and respondent error to shortfall in coverage has been recently raised by Popham & Schmidt (1981a,b). They argue that, because respondent error is the major error source the "continued application of a flawed method (i.e. the population survey) on a massive scale will do nothing to reduce the gap between words and deeds in the alcohol field" (Popham & Schmidt 1981a, p.358, my insertion). Their contention is based upon a comparison of a household expenditure survey over a period of one month by 14 of the heaviest drinkers obtained from sales records of alcohol retailers. It was found that the degree of under- reporting increased with amount consumed. Their finding runs counter to the suggestion that if under-reporting is consistent among all alcohol users, the rank ordering of respondents would be unaffected regardless of

consumption measures (e.g. Edwards et al 1972a,b,c; Kreitman 1977; Fitzgerald & Mulford, 1978). But others (de Lint, 1981; Hyman, 1981; Mulford & Fitzgerald, 1981; Wechsler, 1981) have argued that the illustrative example employed by Popham & Schmidt (1981a, b) was methodologically inadequate. Cooke & Allan (1983) have, however, reported a more methodologically sound analysis of a survey conducted in Glasgow, which demonstrated that dissimulation increased with self-reported consumption level, and was particularly likely to occur within certain population sub-groups (the young, unemployed and males).

Irrespective of arguments concerning the relative importance of various sources of survey error it should be noted that the use of revenue and sales figures for validating purposes is not without problems. Kreitman (1977) discusses three weaknesses associated with Revenue figures for national production. Firstly, illicit home production is ignored. Secondly, not all commercially produced beverage alcohol may be consumed. Italy and France have in the past burned excess wine as industrial fuel. The EEC contains several wine lakes (Kortteinen, 1984). Thirdly, manufacturers traditionally stockpile large quantities of alcohol for amongst other reasons, maturation. Others have commented upon errors (admittedly often negligible) arising from not considering the inexact reporting of alcohol content, the inconsistent classification of beverages alcohol used for cooking purposes, bottle breakage, purchases from duty-free shops (and hence untaxed), stockpiling at home, and sharing with friends (Makela, 1971; Skog, 1973; Sulkunen 1976; Fitzgerald & Mulford, 1978; Midanik, 1982b). Pernanen (1974)

suggests that studies based upon the validation of each individual's drinking are needed.

3.6. Reliability estimates

There have been relatively few published investigations of the reliability of consumption data from population surveys. Edwards et al (1973b) reported the test-retest reliability of Q-F measures from a sub-sample of London respondents 2-3 months after the main survey. For each drinking item approximately 70% gave the same response on both occasions. There was, however, a general tendency towards a decrease in Q-F categories over that period. Given that the Q-F items referred to the preceding 12 months, the authors suggested that the difference was due to error rather than to a genuine change in consumption patterns. Streissguth et al (1976) investigated changes in Cahalan & Cisin's (1968) Q-F-V, and V-V indexes, and in Jessor et al's (1968) A-A over a six month period for pregnant women in Seattle. Like Edwards et al (1973) they reported 'quite high' test-retest reliabilities but found no consistent patterns among those who changed their response. Williams et al (1985) have recently reported high and similar reliability estimates (various types) for Q-F consumption measures covering 14 and 28 day periods. There is, however, some disagreement over whether reliability is greater for frequency than for quantity items (Alanko 1985; Armor et al 1978).

After reinterviewing 15-16 year old school children in Lothian region after a gap of between 3-6 months, Plant et al (1985a,b)

obtained virtually identical overall levels of self- reported alcohol consumption in the previous seven days, and of experience of alcohol-related consequences. But the overall measures concealed considerable variation in the reliability of particular items. Cigarette smoking was, for example, shown to be more stable that alcohol consumption. That this should be so was thought to be due to the fact that smoking involves physical dependence and/or because alcohol relies heavily "upon a system of structured opportunity" (Plant et al, 1985b, p.8). Furthermore, many adverse consequence items were admitted at test but denied at retest. Consequence items with higher levels of inconsistency were of a subjective nature (e.g. "have had 'upset stomach' due to drinking") rather than of an objective (e.g. "have missed a day's schooling due to drinking) nature. Inconsistency also increased with alcohol consumption in the past week, total alcohol-related consequences and the number of illicit drugs used.

Results similar to those reported above have been obtained for surveys of alcohol dependent populations. Relatively high test-retest reliabilities covering periods between 5 days and 8 years have been observed (Summers 1970; Guze & Goodwin 1972; Annis 1979; Holland et al 1978; Sobell et al 1979; Bernadt et al 1984). But reliability depends upon the measure used. This can be observed in the somewhat bizarre study by Blumhagen & Little (1985) who interviewed currently alcohol dependent women about their drinking during each month of their (mainly) last pregnancy. The time since that pregnancy ranged between 2 months and 20 years (mean = 7.5 years). Re-interviews were conducted between 3 and 20 months (mean

= approx 12 months) later, thereby providing "test-retest estimates of drinking .... for 245 months of pregnancy" (Blumhagen & Little, 1985, p.89). High test-retest reliabilities were obtained for A-A estimates. Reliability was unrelated to either time since pregnancy or to time between tests. But frequency measures were more subject to change than were quantity items, and reports of binge drinking were particularly unreliable. Those who reported the heaviest drinking during their pregnancy at test, recorded the greatest decrease at retest. Others have reported greater reliability for frequency as opposed to quantity items among alcohol dependents (Armor et al 1978; Annis 1979).

3.7 Measurement of heavy and problem drinking in general populations

It is not intended that a substantial review of alcoholism screening instruments or of official problem drinking indicators be reviewed. Many of these were reviewed as part of the companion project (Latcham 1985; see also Knupfer 1967; Edwards 1973). Rather, a brief discussion of some methodological issues in detecting heavy or problem drinkers within population surveys will be made.

It is clear from Chapter 2 that there are no firm cut-off points either in terms of consumption or of consequences for safe vs unsafe drinking, moderate vs heavy vs problem or alcoholic drinking. The effects of using different criteria for detecting heavy and problem drinking can be seen in several studies (e.g.

Knupfer 1967; Crawford et al 1982). Clark (1966), in a longitudinal study in San Francisco, demonstrated the importance of defining both severity of drinking problems and timeframe. Changing the definition with respect to severity yielded a twenty-fold variation in rates of current 'caseness' (from 3/1000 to 62/1000). And changing the timeframe to include all who had ever had alcohol related problems, further increased the rate to 272/1000. Streissguth et al (1977) compared eight different criteria of 'heavy drinkers' in a study of pregnant women in Seattle. Criteria included five consumption measures, frequency of intoxication, an Alcohol Problems Scale (Rimmer et al 1971), and a Reasons for Drinking Scale (Mulford & Miller, 1960d). Six of the criteria identified 6-7% of heavy drinkers but by adjusting cut-off points of 'heavy drinking', between 30-90% of women identified by one consumption measure were missed by another. Only 1% were identified as having been intoxicated once or more per month, and 1% had a serious alcohol-related problem. Though the number of intoxications and pathological reasons were associated with larger alcohol intake, the converse was not found. Of the 13 women who admitted serious alcohol related problems, three were not currently drinking.

Room (1971b) employed five measures of heavy drinking taken from different Q-F indices in a re-analysis of his San Franciso population data. Estimates of heavy drinking ranged between 7-20%. Indeed, when assessing the association between heavy drinking and socio-demographic characteristics, the relationship could be reversed according to which Q-F index was used.

Knupfer (1984) recently compared four specific indicators of frequency of drunkenness over the past 12 months (frequency of consuming 5+/8+ drinks in a day; of feeling high/drunk) and one composite index upon the combined data from nine North American population samples. Frequency of consuming 8+ drinks once a week was found to be the best index for risk of alcohol problems. Despite some methodological shortcomings in these measures, Knupfer (1984) nevertheless maintained that frequency of intoxication was a more powerful indicator of alcohol related problems than were measures of average or total amounts consumed over a lengthy period of time.

Weissman et al (1980) in a recent review have noted that "surveys have included different definitions of cases and imprecise descriptions of the time periods assessed, and there has been little effort to assess the diagnostic heterogeneity of alcoholism. Rates have been based on cases as defined by criteria ranging from the quantity and frequency of individual alcohol consumption, irrespective of adaptation to alcohol, to such alcohol related problems as arrests, job loss and traffic accidents. Estimates of the prevalence of alcoholism usually have not specified whether they are point, period or life-time. The lack of specificity regarding the time period in which alcoholism occurred is associated in part with some investigators' conviction that alcoholism is a disorder from which a person never recovers" (1980, p.672-3).

3.8 Summary

There are several methods by which drinking patterns may be

measured by population surveys. The two most common are (1) quantity-frequency indexes (and variants) which provide a taxonomy of drinking patterns and behaviours and (2) factual records which provide detailed information concerning recent drinking occasions. The question is therefore begged, which is most appropriate?

In a recent review of Q-F methods (which are mainly used in the USA), Room (1985) has noted the "strong challenge" by proponents of the factual record approach (mainly British and Scandinavian). Though admitting that methods based upon 'usual' quantity are 'flawed', and that investigation of 'recent occasions' (i.e. factual records) 'yield a rich data-set for contextual analyses of drinking' Room (1985) nevertheless contends that recent occasions are not clearly superior.

It is argued that firstly, there is litle difference between either approach in regard to estimates of total volume consumed and secondly that Q-F methods are less expensive in terms of interviewing and computing time. Closer inspection of his review reveals that Q-F methods produce higher volumes as compared to variable-time factual records but lower volumes than fixed-time factual records. Room, however, admits that the commonly employed criterion for choosing between methods (i.e. selection of the method which yields the highest volume of drinking) is not necessarily the best: that survey methods may also be indefensible on other grounds such as those noted in section 3.1. The review fails to counter Duffy's argument that retrospective seven day factual records "properly used and recorded, seems most satisfactory in terms of

bias" (1982, p.3). The present survey therefore employed the restrospective seven day diary.

CHAPTER 4

GENERAL POPULATION SURVEYS OF DRINKING HABITS

There are three objectives to this chapter:

(1) to describe in general terms the drinking habits of UK adults,

(2) to consider socio-demographic differences in consumption patterns within the UK and

(3) to consider geographical variations in drinking habits within countries outwith the UK.

To this end data will be presented from a number of general population surveys. The chapter will ignore comparisons based upon annual estimates of per capita consumption which are calculated by dividing total production as ascertained from Excise figures by population estimates derived from census data. This literature shows that relative to other industrialised nations the populace of the UK consumes relatively moderate amounts of alcohol. Moreover, in recent years there has been a relative reduction in the increase in per capita consumption which has occurred since the last world war (Sulkunen 1976; Plant 1984). But such studies do not permit detailed descriptions of drinking habits and are subject to many difficulties of interpretation (see Chapter 3.5 and Sulkunen 1976).

4.1 Drinking Habits in the UK: An Overview

There have been around 27 UK population surveys of self-reported drinking habits involving 106,483 interviews since 1965[1]. These are listed in Table 4.1. Eighteen studies used the

retrospective diary technique, while the remaining nine mainly employed quantity-frequency (or variant) type measures[2].

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1. This figure includes 3550 repeat interviews (Knight & Wilson 1980; Caetano et al 1983; Kendell et al 1983a,b) and 1032 interviews (O'Conner 1978) conducted in Dublin. The figure does not, however, include the 2349 respondents in the present study.

2. Edwards et al (1972a,b,c) employed both methods but mainly reported Q-F data. Some of the unreported diary data were later presented by Cartwright et al (1978a).

Table 4.1(a) British Population Surveys using retrospective 7 day diary method

Survey details						Drinker category (%)			% of sample exceeding weekly safe limits (units)			Total units by regular drinkers	Alcohol in 1 unit
Authors	Area	Minimum age	N	Year	Sex	Abstainer	Occasional	Regular	20–21	35	50		
Dight (1976)	Scotland	17	2453	1972	M	5	22	75	26	–	7	20.5	9 gm
					F	12	42	46	–	–	0	4.8	
Plant & Miller (1977)	Edinburgh	18	111	1975	M	–	–	–	–	–	–	14.0 (b)	1.0 cl
			112		F	–	–	–	–	–	–	17.9 (b)	
Cartwright et al. (1978)	Camberwell	18	286	1974	M	]	38.8	61.2	–	–	–	14.5	1.0 cl
					F	]			–	–	–	3.2	
Saunders & Kershaw (1978)	Clydebank	15	3608	1976/7	M	9	24	67	29	–	8	19.9 (159 gm)	8 gm
					F	26	44	30	–	–	–	6.1 (49 gm)	
Plant & Pirie (1979)	Glasgow	(a)	500	1976	M	15.1		84.9	–	–	–	15.6 (c)	
					F	31.5		68.5	–	–	–	3.3 (c)	
	Ayr	(a)	524	1976	M	13.2		86.8	–	–	–	10.6 (c)	
					F	29.9		70.1	–	–	–	2.5 (c)	1.0 cl
	Aberdeen	(a)	553	1976	M	9.4		90.6	–	–	–	11.1 (c)	
					F	33.2		76.8	–	–	–	2.5 (c)	
	Inverness	(a)	479	1976	M	7.9		92.1	–	–	–	13.5 (c)	
					F	33.2		76.8	–	–	–	3.5 (c)	
Knight & Wilson (1980)	Scotland	18	1656(d)	1976	M	] 10	38	52	–	–	] 2	18.7 (e)	(g)
					F							5.5 (e)	
		18	1443(d)	1977	M	] 9	36	55	–	–	] 2		
					F								
		18	1143(d)	1978	M	] 9	38	53	28(f)	14(f)	6(f)	19.5 (f)	
					F							6.2 (f)	

Wilson (1980)	England & Wales	18	1996	1978	M	6	18	77	27	14	6	20.3	8.5 gm
					F	11	31	57	3	1	0	7.2	(h)
Ritson et al. (1981) (m)	Lothian	17	1007	1978/9	M	6	15	79	27	-	9	21.6	
					F	15	37	48	3	-	0	7.0	9 gm
Blaxter et al. (1982)	Western Isles	18	900	1980	M	18 (i)	20 (i)	62 (i)	-	-	-	-	(j)
					F	38 (i)	40 (i)	25 (i)	-	-	-	-	
Harbison & Haire (1982)	Northern Ireland	18	835	1978	M	31	23	46	5	5	3	15.9	(g)
					F	52	27	21	2	1	0	6.8	
Cooke & Allan (1983)	Glasgow	18	408	1980	M	8	16	76	-	-	-	21.6 (6.1oz)	9 gm
					F	30	33	47	-	-	-	4.6 (1.3oz)	
Kendell et al. (1983a, b)	Lothian	17	463 (k)	1981/2	M	-	-	100	?	?	10.3 (k)	21.7 (k)	9 gm
					F	-	-	100	?	?	?	7.1 (k)	
Duffy & Waterton (1984)	Edinburgh	(a)	249	1982	M	22.1		77.9	-	-	-	26.1	9 gm
			257		M	24.0		76.0	-	-	-	19.6	
Yates et al. (1984)	Ashington	(a)	415	1982/3	M	8.3	17.4	74.5	-	-	7.0	26.0	(g)
					F	17.2	36.8	46.2	-	-	0	8.1	
	Bishop Auckland	(a)	435		M	9.6	22.7	66.5	-	-	9.8	26.0	
					F	32.7	31.3	35.6	-	-	0	7.3	
DHSS (NI) (1984)	Northern Ireland	18	1195	1984	M+F	29.5	31.3	39.2	-	-	-	-	?
Breeze (1985)	Mersey/ Northern	18-54	2909	?	M	2(1)	12(1)	85	41(1)	24(1)	12(1)	24.5	(n)
					F	5(1)	28(1)	67	6	1	?	7.1	
	Trent/ East Anglian	18-54			M	3(1)	15(1)	82	34(1)	15(1)	5(1)	18.5	
					F	5(1)	28(1)	67	6	1	?	7.0	

OPCS (1985)	Scotland	18	1981	1984	M	6	18	75	-	-	-	19.3	(g)
					F	10	34	56	-	-	-	6.8	
PPRU (1985a)	Northern Ireland	18	6071	1984	M(o)	27	6	67	-	-	-	-	?
					F(o)	43	9	47	-	-	-	-	

Notes
(a) Taken from Electoral Register, hence minimum age probably 18
(b) Probably regular drinkers only
(c) 'Drinkers' answered 'yes' to "Do you ever have an alcoholic drink these days?" Weekly consumption refers to such 'drinkers'.
(d) Same people re-interviewed on each occasion
(e) Data supplied by OPCS (1985)
(f) Data supplied by Wilson (1980a) and refers to respondents aged 20+
(g) Probably same as Wilson (1980a, b)
(h) Pure alcohol equivalent of 1 unit ranged between 7.9 gm (spirits) to 12 gm (table wine).
(i) Used the terms "not at all", "special occasions only", "more regularly". Data taken from figure.
(j) Probably same as Dight (1976)
(k) Regular drinkers from Ritson et al. (1981) re-interviewed
(l) Data taken from figures, and refers to regular drinkers only from two pairs of regional health authorities combined
(m) Consumption data from base weighted for region
(n) Pure alcohol equivalent of 1 unit ranged between 7.5 gm (spirits) to 10.8 gm (cider)
(o) Used the term "non-drinker", "very occasional drinker", "drinker". Preliminary report.

Table 4.1(b): Surveys using the Q-F method

Survey details						Drinker category (%)						Amount consumed last		Alcohol in 1 uni
Authors	Area	Minimum age	N	Year	Sex	Abstainer	Occasional	Infrequent light	Frequent light	Moderate	Heavy	week (units)	month (units)	
Edwards et al (1972)	Camberwell	18	928	1965	M	7	17	9	25	26	14	9.5(a)	-	1.0 cl(a
					F	10	36	20	28	6	0	2.9(a)	-	
OPCS (1980)	Britain	18	21665	1978	M	5	9	11	34	15	25	-	-	9 gm
					F	11	25	19	39	4	2	-	-	
Cummins et al (1981)	24 British towns	40-59 (b)	7735	1978-80	M	6	14	9	17	29	25	-	-	(c)
Caetano et al (1982)	Shetland Islands	15	533	1975	M	] 3	9	7	6	41	33	17(d)	69.6(de)	9 gm
					M								61.8(de)	
					F	] 14	51	16	10	9	0.4	2.5	5.3	
					F								1.4	
OPCS (1982)	Britain	18	21516	1980	M	5	9	12	37	14	23	-	-	9 gm
					F	12	22	19	41	4	2	-	-	
Caetano et al (1983)	Shetland Islands	15	501 (f)	1978	M	-	-	-	-	-	-	-	86.5	7.9 gm
					M	-	-	-	-	-	-	-	66.4	
					F	-	-	-	-	-	-	-	13.4	
					F	-	-	-	-	-	-	-	10.0	
OPCS (1984)	Britain	18	18965	1982	M	6	10	12	37	14	21	-	-	9 gm
					F	12	23	20	40	4	1	-	-	

Notes: (a) Data supplied by Cartwright et al. (1978a)
(b) Age range of entire sample
(c) Probably same as OPCS (1980)
(d) Derived from Q-F data (i.e. not from retrospective diary)
(e) Data from Caetano et al. (1983)
(f) 94% of Caetano et al. (1982) 1975 sample successfully re-interviewed.

Table 4.1(c): Surveys using other methods

Authors	Survey details: Area	Minimum age	N	Year	Sex	Drinker categories: Abstainer and virtual abstainer [a]	Light drinker	Moderate drinker	Heavy drinker	Very heavy drinker
O'Conner (1978)	Dublin	18 (a)	1032	1972	M	19.8	13.0	15.1	23.2	28.9
					F	46.6	25.5	16.3	10.7	0.9
	London	18 (a)	613	1972	M	12.1	14.8	22.6	21.9	28.6
					F	31.0	26.6	23.7	17.1	1.6
	London Irish	18 (a)	439	1972	M	6.2	9.7	16.7	22.9	44.5
					F	27.1	19.5	20.6	29.7	3.0

Authors	Survey details: Area	Minimum age	N	Year	Sex	No/Never (b)	Rarely	Yes	Don't know
Budd et al (1983)	Newcastle	15	248	1981	M+F	17.3	21	60.1	1.6
	Leicester	15	249	1981	M+F	9.6	15.7	74.7	0

Notes: (a) Derived from Cahalan et al. (1969) Volume-variability (V-V) scale. Data from parents and children (aged 18-21) combined
(b) Answers to "Do you ever have a drink yourself?"

4.1.1. Abstention Rates and Consumption Levels: Goldman & Najman (1984) have recently identified three abstainer sub-types in an American survey. These are lifetime abstainers and current abstainers with and without prior drinking problems. No data distinguishing between such sub-groups are available in the UK. An abstainer is typically defined as someone who has not consumed alcohol within the previous 12 months.

But irrespective of definition, it is clear from Table 4.1 that in mainland Britain abstainers constitute a minority group (5-18% males, 12-38% females) and that the majority of British males surveyed in retrospective diary studies had a drink in the past week (52-85%), and that a smaller proportion of females did so (30-67%). Persons who drank in the past week are conventionally described as 'regular' drinkers, while drinkers who did not drink in the past week as classified as 'occasional' (Dight 1976). The table shows that the mean consumption level of regular drinkers ranged between 14.5-26 units for males, and 3.2-8.1 units for females.

4.1.2. Safe Drinking Limits and Heavy Drinking Styles:

There is no single agreed limit for safe drinking (see Chapter 2.5.1). Table 4.1 depicts three separate limits, namely 20-21+, 36+ and 50-51+ units last week which have been widely discussed in recent years. It can be seen that men are considerably more likely to exceed each limit than are women. Moreover, though very few respondents (about 3%) exceed 50 units in a week, three national surveys (Dight 1976; Wilson 1980b; Harbison & Haire 1982) show that they consume 25-30% of all alcohol in the survey.

However defined, heavy drinkers are most likely to report adverse consequences from their drinking (Edwards et al 1972a,b,c; Dight 1976; Wilson 1980b; Harbison & Haire 1982; OPCS 1982; Yates et al 1984). Nevertheless, the majority of respondents who are identified as heavy drinkers do not report frequent drunkenness. Moreover, few are identified as problem drinkers (as ascertained from self- reported problems within a specified time period) (Wilson 1980b; Harbison & Haire 1982).

Heavy drinkers, irrespective of sex, spend more time drinking (especially on weekdays) and are more likely to do so in bars. Whereas such males report the fastest consumption rates for men (Dight 1976; Wilson 1980a,b; Harbison & Haire 1982), their females counterparts in England and Wales report faster rates in bars only. Indeed such women drink at a slower rate in the home (where women consume most of their alcohol) than other women (Wilson

1980b). Heavy drinking males are particularly likely to drink with male friends and to report that they also drink heavily (Dight 1976).

4.1.3. Drinking Contexts: Several studies considered the context in which alcohol was consumed (Edwards et al 1972; Dight 1976; Cartwright et al 1978a; Wilson 1980b; Ritson et al 1981; Harbison & Haire 1982; Yates et al 1984). Taken together they show that, for both sexes, pubs and clubs are associated with faster and heavier drinking. However, bar drinking (with a few same sex friends) is largely the preserve of younger males. Both women and older drinkers are more likely to drink at home (Ritson et al 1981). Two studies have reported a general trend towards increased drinking at home (Cartwright et al 1978a; Yates et al 1984). But it is not certain whether recent changes reflect poorer economic conditions or a more fundamental change in habits (Yates et al 1984).

4.1.4. Temporal Trends: When describing a recent US survey Fitzgerald & Mulford (1983) argued that maturational and generational changes in drinking behaviour can be detected. The generational argument is that alcohol- related behaviours and attitudes are established at an early age, are fairly persistent throughout life, and that each new generation is more accepting of alcohol use. Maturational changes which cause a reduction in consumption with age are believed to moderate this initial high acceptance of social and heavy drinking behaviour. These changes thus appear to counterbalance each other.

Evidence of such changes may be observed in UK population surveys. Regarding maturational changes, it will be shown in Section 4.2 that a number of cross-sectional surveys have found age-related decreases in consumption. It has also been found that by asking respondents about changes in their consumption over the past 5-10 years many report no changes over that period. Nevertheless older respondents are more likely to report that they now consume less alcohol (Dight 1976; Wilson 1980b; Harbison & Haire 1982). Such a measure is, however, open to bias because of memory problems, current under-reporting, and the fact that for older drinkers, the time period covers only their recent drinking history.

Evidence of generational changes have been obtained by asking respondents to describe the drinking habits of their parents when they themselves were younger. By so doing it is possible to obtain information about the previous generation from present respondents aged 17-30, about those from two generations ago from present 31-50 year olds, and about those from three generations ago from current 51+ year olds (Dight 1976). Such material is, however, obviously biased by the fact that repondents were describing someone else's past behaviour, and because those from larger families had greater likelihood of being sampled in population surveys. Even so, there appears to be a tendency towards more regular and heavier consumption among successive generations (Dight 1976; Wilson 1980b; Harbison & Haire 1982).

The above surveys are limited by their use of single cross-sectional designs. To date there has only been one pertinent

longitudinal study reported in the British literature. Caetano et al (1983) found that consumption levels generally increased, particularly among the young, between 1975-8 in the Shetlands. Others who employed repeat cross-section surveys provide mixed support for this finding. The general increase in consumption recorded for Camberwell between 1965- 74 was especially pronounced among those aged 18-34 and 55+ (Edwards et al 1972a,b,c; Cartwright et al 1978a,b). A reduction in abstention rates recorded between 1978-84 in Northern Ireland was most pronounced among those under 30 years of age (Harbison 1983; Department of Health and Social Services 1984). The increase in alcohol consumption which occurred in Scotland between 1976-84, was almost entirely attributed to women aged 36-45 (OPCS 1985). But recent General Household Surveys (OPCS 1980, 1982, 1984) have failed to detect clear-cut changes in Q-F measures of consumption patterns for the UK between 1978-82.

Temporal changes in consumption patterns may also be the result of general economic or specific alcohol policy issues which affect alcohol availability. Cartwright et al (1978a) suggested that the increased consumption in Camberwell in 1974 relative to 1965 may have been the result of the rapid growth of off-license sales of alcohol and other stores after 1966. The rapid industrialisation of a remote rural community by creating more alcohol outlets has also been associated with increased consumption (Caetano et al 1983). Conversely, levels of consumption and levels of adverse consequences were found to decrease when excise duty was increased in 1981 (Kendell et al 1983a,b).

There is a continuing debate concerning the effects of the 1977 liberalisation of Scottish licensing laws. Investigations of consumption levels and patterns before and after the change (Knight & Wilson 1980; OPCS 1985) point to a more relaxed approach to drinking in Scotland which it is claimed has resulted in increased female consumption between 1976-84 (OPCS 1985). Few other changes were found. However, neither of these studies investigated the drinking behaviour of control groups in other areas of Britain (Duffy & Plant 1985). Saunders (1982), on the other hand, argues that the more liberal drinking laws may lead to increased levels of harm; but thus far there is little evidence to sustain such an argument (Duffy & Plant 1985).

4.1.5. Summary

It may be concluded from the review thus far that very few adult Britons do not at least occasionally drink alcohol. Moreover, substantial proportions of regular drinkers exceed weekly (Health Education Council 1983) and daily (Royal College of Psychiatrists 1979) safe drinking limits. Drinking habits are influenced by a number of factors such as drinking setting, respondent characteristics and chronological date.

4.2. Socio-Demographic Differences in UK Drinking Habits

Most of the studies listed in Table 4.1 considered socio-demographic differences in drinking habits. For each socio-demographic variable considered only common findings will be

presented unless disagreements arise, or when a specific finding is to be further discussed, whereupon particular studies will be identified.

4.2.1. Sex : Bacon (1973) has noted from anthropological studies of 139 societies that men drink more than women in 53 societies, and that no sex differences occur in 36 societies. It is obvious from the comments in section 4.1 that Britain falls into the former group. Compared to males, women are less likely to drink. Indeed, when they do drink, they consume less alcohol, less often and over less time (especially in bars). They are also less likely to exceed safe-drinking limits. Men tend to drink beer type drinks while women generally prefer non-beer beverages. Harbison (1982), in a factor-analytic study of drinking practices in Northern Ireland recorded marked sex differences in factor structures relating to drinking styles. It was recommended that, at least within Northern Ireland, future analyses of drinking patterns be separately conducted for each sex.

4.2.2. Age : the consensus is that irrespective of sex, younger people are least likely to abstain and most likely to have had a drink in the previous week. During that time younger people also consume more alcohol and are especially likely to report a heavy drinking day. Younger people also tend to prefer lager (PAS 1984, 1985). They are also most likely to have been drunk and to have experienced adverse effects from their drinking during the previous few months. Weekly consumption levels peak below the age of 40 and decrease thereafter, though there may be smaller peaks among older

male drinkers (Ritson et al 1981; Yates et al 1984). It is not possible to precisely locate the early peak, for among other reasons, many of the studies grouped their data into different age bands of varying widths.

4.2.3. Marital status : Married respondents tend to be more moderate drinkers than those who are single (unmarried, separated, divorced, widowed). It has been argued that this may simply be explained in terms of age; that married people tend to be older than those who are single (Edwards et al 1972a). Several studies have, however, reported that the differences remain even after standardising for age (e.g. Wilson 1980a,b; Harbison & Haire 1982; Breeze 1985) while others do not (Cooke & Allan 1983). Wilson (1980b) found that males aged 35+ and who were single/widowed/divorced reported higher consumption per occasion, and to have drunk heavily on a weekday, but to report fewer problems than younger, single men. It is suggested that such older groups may be particularly vulnerable to developing drinking problems but have a higher tolerance level which prevents them from recognising the risk. Married women with young children are less likely to drink, and more likely to do so moderately than those with none or older children (OPCS 1982, 1984).

4.2.4. Social class : Male non-manual workers are more likely to drink, to do so often, to spend more money on alcohol, and to consume a greater variety of alcoholic beverages, in a wider variety of settings than manual workers. But when manual workers do drink, they are most likely to do so heavily, and to experience adverse

consequences. However, the relationship between social class and total weekly consumption among males is confused (Edwards et al 1972a,b,c; Dight 1976; Cartwright et al 1978a; Wilson 1980a,b; Harbison & Haire 1982; Cooke & Allan 1983; Kendell et al 1983b) and may vary over time (Cartwright et al 1978a,b; Kendell et al 1983b) and by country (Wilson 1980a) or by region within country (Breeze 1985). Concerning women, the majority (Edwards et al 1972a; Dight 1976; OPCS 1980, 1982, 1984; Ritson et al 1981; Cooke & Allan 1983) but not all (Caetano et al 1982b) of the studies report that the highest social classes are least likely to abstain. Once again there is no clear consensus concerning class differences in consumption levels. It should however be noted that the value of the social class scale (Registrar General) which was employed in all of these studies has been questioned (Jones & Cameron 1984). More generally, the choice of social class indicator may have marked effects upon the results obtained in epidemiological studies (Littlejohn 1972; Abramson et al 1982).

4.2.5. Employment status : There is no clear association between unemployment and drinking behaviour. Consideration of the surveys listed in Table 4.1 and of those specifically concerned with unemployment reveals that unemployment increases alcohol use and misuse (Wilson 1980b); reduces use and misuse (Plant 1979; Cooke & Allan 1983; Kendell et al 1983a,b; Warr & Payne 1983; Warr 1984); has no effect upon drinking behaviour (Cook et al 1982; Department of Education & Science 1983; Plant et al 1985a,b); and either increases, decreases or does not affect consumption (OPCS 1980, 1982, 1984; Regional Working Party on Problem Drinking 1983; Yates

et al 1984). These findings mirror those reported in the international literature (Crawford et al 1985).

This confusion in the unemployment-alcohol literature may be explained by the fact that the majority of studies employed a cross-sectional design. Only three studies were longitudinal in design (Plant 1979; Kendell et al 1983a,b; Plant et al 1985a,b) and two of these (Kendell et al 1983a,b; Plant et al 1985a,b) had very long intervals between fieldwork periods. Though there are advantages in conducting a cross-sectional study, such a design does not permit causal statements about the effects of job loss upon drinking behaviour (Jenkins et al 1982; Winton et al 1985). Moreover, a diverse range of measures were used to measure alcohol consumption among populations differing in age, social class and duration of unemployment.

4.2.6. Income : No consistent relationship has been reported between household income and drinking patterns. Some surveys have found that higher income households consume greater amounts (Caetano et al 1982b; Harbison & Haire 1982), and various family expenditure surveys (e.g. Department of Employment 1983) show that they spend more money on alcohol. Yet others found either no or a weak relationship between income and consumption (Dight 1976; Wilson 1980b; Kendell et al 1983b). To account for this discrepancy Wilson (1980b) suggests that higher income groups might buy more expensive forms of alcohol. Others maintain that the relationship between consumption level and income is relatively complex. For example, the effects of income are greatest among older drinkers (OPCS 1980;

Ritson et al 1981). Indeed income level may simply affect the likelihood of drinking rather than the amount consumed (Dight 1976).

Such investigations are, however, prone to inaccuracies in their measures of total household or gross individual income because of lack of knowledge about the income of all members (especially if some are non-family members). Moreover, such measures say little about disposable income.

4.2.7. Religion and Ethnicity : In Edwards et al's (1972a,b,c) Q-F survey of Camberwell it was found that moderate/heavy drinking levels and drinking troubles were particularly common among respondents who were Roman Catholics or who had Scottish or Irish fathers. Similarly, recent Scottish surveys have found that, for the sexes combined, respondents with no religion, who were non-protestant, or who were infrequent churchgoers were most likely to drink and to report the highest consumption levels (Dight 1976; Blaxter et al 1982). And a recent study of Northern Ireland (Policy Planning and Research Unit, NI, 1985b) found that fundamentalist protestants were most likely to abstain.

4.2.8. Summary

It is clear from the preceding review that adult drinking practices are influenced by several factors including drinking context, sex, age and ethnicity. Nevertheless, the mere fact of statistical significance does not entail that a result is particularly important. Very few of the studies reviewed thus far

have considered the relative strengths of these variables in predicting drinking behaviour.

Caetano et al (1982b) in their survey of the Shetlands reported that respondent sex accounted for 42% of the variance in a stepwise regression of predicting their Q-F consumption measure. Age accounted for a further 5%, and the remaining variables (income, marital status, education, social class and psychiatric symptoms) only 2% of the variance. Cooke & Allan (1983) reported that only sex, employment status, and age significantly contributed to total consumption in the past week for respondents from an area of Glasgow. Together they accounted for 31% of the variance for the total sample population and 37% for regular drinkers. Sex accounted for about the same variance as the two other variables combined (both of which contributed about the same amount). These two studies suggest that, apart from respondent's sex, socio-demographic factors contribute little to predicting alcohol consumption by adults. This observation is also confirmed by a survey of women in Baltimore, USA which found that a variety of socio-demographic factors accounted for less than 10% of alcohol consumption (McQueen & Celentano 1984).

4.3. Geographical Variations in Drinking Patterns

4.3.1. UK Regional Variations: In Chapter 1.1 it was noted that the prevalence of such officially collated indicators of alcohol misuse as alcohol-related mortality, crime and dependence are highest in northern and lowest in southern regions of Britain

(Kilich & Plant 1981; Haskey et al 1983). This section will consider whether similar geographical trends in general population consumption patterns may be discerned from the studies listed in Table 4.1. The fact that several of these studies surveyed only single (and sometimes small) areas limits their generality. For, several surveys have shown that even geographically close communities may exhibit considerable differences in consumption patterns (Dight 1976; Plant & Pirie 1979; Ritson et al 1981; Budd et al 1983; Yates et al 1984). Indeed, Plant & Pirie (1979) in a survey of four Scottish towns found "important local variations. Aberdeen differed from Inverness. Glasgow differed from Ayr" and conclude that "these differences indicate that one cannot justifiably generalise from the drinking behaviour of one community to that elsewhere" (p.72).

The general literature describing geographical variations in alcohol consumption levels and associated harm are sparse and contradictory. Yates et al (1984) in their comparison of two North East English towns found that males in Ashington reported virtually identical levels of consumption and of self-reported problems to those from Bishop Auckland. However, Ashington females reported twice as many problems, despite a negligible town difference in consumption levels over the previous week. It was concluded that per capita consumption figures as derived from survey data were a relatively insensitive indicator of alcohol involvement in a normal population (Yates et al 1984, p.137). Plant & Pirie (1979), on the other hand, found in their concurrent surveys of Aberdeen, Ayr, Glasgow and Inverness, that local official recorded rates of

alcohol-related death, crimes and psychiatric admissions were associated with per capita consumption (from survey data). And by finding lower proportions of abstainers in Aberdeen and Inverness than in Ayr or Glasgow argued that they were confirming hitherto impressionistic evidence that northern towns are 'culturally wetter' than southern towns (though the mean consumption per drinker was greatest in Glasgow).

Data pertaining to regional variations in consumption levels are similarly contradictory. North-to-south gradients were observed within recent General Household Surveys of heavy drinking among the British Regions (OPCS, 1980, 1982, 1984) and among men aged 40-59 drawn from one representative practice in each of 24 towns even after controlling for social class and age (Cummins et al 1981). But the General Household Surveys (OPCS 1980, 1982, 1984) also found that Scotland was a middle ranking region in its proportion of male heavy drinkers, and that the highest proportions of such drinkers were to be found in the North of England. Scottish women tended to show the highest rates of abstention (though in 1978, its rate was identical to that in East Anglia and Greater London). Similarly, Scotland has been shown to be a middle-ranking region in terms of mean regional weekly expenditure on alcohol for the period 1981-1982 (Department of Employment 1983). However, it should be noted that both the General Household Surveys (OPCS 1980, 1982, 1984) and Cummins et al (1981) used a criterion of 'heavy drinking' which included anyone who had consumed at least 3 pints of ordinary beer, or its equivalent within a single day in the previous week. Plant has argued that 'this criterion is open to challenge as a

realistic or meaningful assesment' (1982 p.103).

Wilson (1980a) recently compared three near identical surveys of Scotland (Knight & Wilson 1980), England & Wales (Wilson 1980b) and Northern Ireland (Harbison & Haire 1982). Northern Ireland was found to have a different drinking tradition to that found elsewhere. The region recorded the highest percentage of abstainers, the lowest mean weekly consumption levels and the lowest proportion of male drinkers who exceeded 50 units in the past week. There was some evidence of a slight north-west to south- east trend in consumption levels within England and Wales (Wilson 1980b). But Wilson (1980a) also found that Scotland and England/Wales were virtually identical in mean levels of consumption despite the fact that the highest rates of alcohol-related problems were to be found in Scotland (e.g. Kilich & Plant 1981).

Wilson (1980a) offers several reasons for the anomaly. Firstly, the relatively heavy levels of consumption which is associated with youth, extended into older age groups (i.e. 28-37 year olds) in Scotland. Secondly, the Scots had a more compressed drinking style. They were more likely to report at least one heavy drinking day (defined as drinking at least four pints or its equivalent) in the past week. Scottish males also drank at a faster hourly rate than elsewhere. This may have led to an increased likelihood of their experiencing many of the acute adverse consequences discussed in Chapter 2.3.

Of particular relevance to the present investigation is a newly

published report by Breeze (1985) who investigated variations in consumption patterns between two regions of England which were characterised by either a high risk (Mersey and Northern Regional Health Authorities combined) or a low risk (Trent and East Anglian Regional Health Authorities combined) for problem drinking. The disparity in official rates of problem drinking between these two areas were less than those found between the three areas under investigation in the present study. Breeze (1985) reported that there were no differences in the consumption patterns between women from the two areas. Males in the high risk area, however, consumed on average 6 units (24.5 versus 18.5 units) and were more likely to

be classified as heavy drinkers[1] (21% versus 15% of all males) than were those from the low risk area. Area differences in consumption levels were particularly pronounced among males who were under the age of 30 or were unmarried. Moreover, moderate/heavy drinkers from high risk areas, in addition to consuming 40% more alcohol than those from low risk areas, also reported faster consumption rates and were more likely to report heavy drinking days. These area differences were particularly marked among males resident in lower status areas.[2] Interestingly, there were no area differences in respect of self-reported alcohol-related problems over the preceding three months.[3]

The above comments show that the relationship(s) between regional variations in alcohol consumption and related problems is not well understood within the British context. Indeed, Wilson writes that "it is interesting to note that it is mainly with respect to heavy drinking days that the surveys have confirmed the traditional image of the English as being more moderate drinkers that the Scots or Northern Irish" (1980a,p.17).

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1. Defined as having consumed 50+ units in the past week, or drunk at least three times in the past months, or identified as problem drinker from CAGE questionnaire (see Wilson 1980b).
2. Classified from census data in terms of housing stock, amenities, workforce etc.
3. These data were presented only in terms of population differences. No data are available for population sub-groups.

4.3.2 International Comparisons

The earliest cross-cultural investigations of drinking patterns may be found among the anthropological literature. In the first of these studies Horton (1943), by investigating 56 cultures, found an association between frequency of drunkenness and anxiety as measured by "degree of subsistence insecurity and acculturation" (Bacon 1976 p.19). But Field (1962), following a re-analysis of Horton's data, instead argued for an association between level of social organisation and sobriety rather than between level of anxiety and drunkenness. Bacon et al (see Bacon 1973) in a factor-analytic study of such measures as availability, context, behaviour and attitudes towards drinking in 139 societies, including those investigated by Horton, found four independent factors. The first, which was labelled the "integrated drinking factor" related to the use of alcohol in a ceremonial and ritualised context. Societies high in this factor regarded drinking as an integral part of ceremonial and other occasions and tended to have high rates of consumption but few problems. Support for this sociocultural model may be found in descriptive studies of Jews (Snyder 1958), Italians (Lolli et al 1958), and the French (Sadoun et al 1965).

International comparisons which are based upon national surveys of drinking habits may be divided into two subgroups. The first group consists of those comparisons which are drawn from unmatched populations surveyed at different times and probably using different methods. This creates difficulties in interpretation of such work (AES 1980). There have been two recent and fairly similar

examples of such investigations (Armyr et al 1982; Davies & Walsh 1983). Davies and Walsh (1983) compared data from a number of sources describing per capita alcohol consumption, population consumption patterns, problems and control policies in 16 European nations. The data were generally sparse. With very few exceptions no information is available concerning the populations surveyed, and terms such as 'abstainer', 'occasional', 'regular', 'heavy' or 'excessive' drinkers were undefined. Only the briefest and most tentative conclusions could therefore be drawn. In most of the countries (except Ireland) few adults abstained, females generally being most likely to do so.

Studies in the second subgroup compared similar, identical or compatible surveys of one or more countries. In one such exercise, Simpura (1981) considered similar surveys of Scotland (Dight 1976) and Finland (Simpura 1978). In terms of per capita consumption (Excise data), the Scots were virtually identical to the Finns: consuming 6.5 and 6.3 litres respectively of 100% alcohol per head of population in the survey years. These average consumption figures also showed Scotland to be largely a beer-drinking and Finland a spirit-drinking country. However, the per capita figures were shown to conceal important differences in the drinking habits of both countries.

By considering data from both surveys Simpura (1981) demonstrated that in Scotland there were fewer abstainers (9% vs 15%) and more regular drinkers (59% vs 47%) than in Finland. Moreover, though Finns of either sex, and Scots males conformed to the

predicted beverage preference, Scots women showed very strong preferences for spirits (56% of last weeks consumption) as opposed to beer (19%). Amongst regular drinkers, Scots males consumed more, but Scots females consumed less than their Finnish counterparts. Further differences in drinking occasions, time, consumption rate, regularity etc were noted. Simpura (1981) suggests that cultural differences, control policies and degree of urbanisation accounted for these differences.

The utility of per capita consumption (Excise data) as a means of comparing nations was further undermined by Hauge & Irgens-Jensen (1984) who recently compared the relationship between alcohol consumption and adverse consequences from identical surveys of Finland, Iceland, Norway and Sweden. In terms of per capita consumption of absolute alcohol for adults aged 15 and over, the countries ranked Finland (7.84 litres), Sweden (7.1), Norway (5.6) and Iceland (4.49). However, per capita consumption was found to be unrelated to self- reported experiencing of adverse effects (such as hangover) from drinking alcohol over the previous 12 months. It was concluded that "it is not possible, based on a country's total consumption to make a reliable prediction concerning the extent of the negative consequences of alcohol consumption considered in this study" (Hauge & Irgens-Jensen, 1984 p.9), and that "the same amount of alcohol leads, therefore, to different magnitudes of reported negative consequences in the various countries" (p.12).

Frequency of intoxication within the past year was, however, directly related to adverse effects from alcohol. The findings

therefore did not support the Ledermann (1956) explanation of the relation between population consumption and harm. But the authors warned that the findings applied only to the consequences considered within that study and that other effects such as worries about personal consumption or various medical conditions may have been linked to longer term consumption patterns. It was further suggested that the likelihood of particular consequences being prevalent within a given society may have been related to culturally determined factors (cf Chapter 5). This was confirmed by Bruun (1969) who observed that the drunkenness arrest rate was between 7-13 times higher in Helsinki than in Copenhagen even though the actual frequency of drunkenness was similar. The disparity in rates arose because of differences in control policies.

Some support for these findings may be gleaned from World Health Organisation sponsored comparable surveys of Scotland (Lothian Region), Mexico and Zambia and from similar surveys of California and Ontario (Ritson et al 1981). Interpretation and comparison of the results were limited by difficulties in achieving comparable research methods, by the sampling of relatively small areas of each country and by the great diversity between the countries studied. Nevertheless Zambia and Mexico were found to have the lowest per capita consumption, and considerably higher abstention rates, but more drinking to drunkenness, and much higher alcohol-related personal and social problems than either Lothian or California. The two countries further contrasted with Lothian and California in that males were considerably more likely to drink than females, older people drank considerably more than younger people, and rural

men drank more than urban men.

The final comparison was provided by Armyr (1983) who recently briefly reported a preliminary analysis of data drawn from 10 (European) out of 20 nations simultaneously surveyed in respect of moral and social values, beliefs and satisfaction with life during 1981-2. Self-reported patterns of alcohol consumption were categorised on an undefined four point scale (excluding 'don't knows') ranging from "total abstainer" to "regular drinker". The relative proportions of "total abstainer" ranged between 7% (Denmark) to 31% (Spain), and regular drinkers between 5% (Spain, Sweden) to 20% (Italy). Though the figures for 'total abstainers' accorded well with more extensive alcohol studies in several countries including the UK (10%), the figures were too high in Italy (26%) and France (28%). Armyr suggested that the discrepancies arose from cultural and translation (which was literal) difficulties. The data suggests that abstainers in many countries were more likely to report a strict upbringing and to possess relatively conservative attitudes. But conclusions werelimited by the use of descriptive statistics upon only a small part of the data, and by the above noted uncertainty in self-reported drinking practices.

4.3.3. Intranational Comparisons outwith the UK

As in Britain, there have been relatively few published comparisons of the drinking customs within different areas of the same country. Most of these were conducted within the USA. From

one of the earliest such exercises, a US national survey of usual drinking habits in 1946, Riley et al (1948) reported that residents in legally dry areas, because of lack of access to alcohol beverages, were considerably more likely to drink for individual than for social reasons (see Chapter 5.3.1). It was also found that the proportions of drinkers, and of regular drinkers (defined as drinking on at least three occasions in a week) increased with community size (Riley & Marden 1947). A similar size effect has also been noted in the USA (Mulford 1964) and in Canada (Popham 1955). Maxwell (1952), on the other hand, found that place of rearing was a more important determinant of drinking behaviour than place of residence in a 1951 survey of the State of Washington. And Mulford & Miller (1959, 1960a-d) reported that place of rearing and of residence complexly interacted to determine drinking behaviour in Iowa in 1958. Comparisons of two surveys conducted in Iowa in 1961 and 1969 (Mulford & Fitzgerald 1983a,b; Fitzgerald & Mulford 1981, 1983a,b) found evidence showing that heavy drinking rates in rural and dry areas appeared to be catching up with those in urban and wetter areas.

The two most comprehensive investigations of American drinking practices were conducted within the 1960s. The first, which was based upon a national probability sample of 2746 adults aged 21 and over and surveyed between 1964-5, was intended to fulfil three objectives: to study the range of drinking practices, to analyse the correlates of such behaviour, and to serve as a baseline for future longitudinal studies (Cahalan et al 1969). The second, which investigated problem drinking among American men, consisted of a

combined sample from two separate surveys: 583 men aged 21-59 identified as being at 'high risk' of drinking problems from an 1967 survey reinterviewing 1359 respondents from the 1964-5 survey; and 978 men of the same age group who were surveyed in 1969 (Cahalan & Room 1974).

Taken together these surveys replicated many of the earlier findings. Abstention rates were highest, and frequent and heavy drinking rates lowest among those resident/reared in rural areas (even after controlling for sex, age and social status), southern and mountain regions, and in legally dry areas. City residents who were of lower class rural origins were especially likely to experience adverse effects from their drinking. These findings were particularly evident when these categories overlapped. Indeed, southern and mountain areas were generally less urbanised, less industrialised, less well-off, and more likely to be dry than other areas. They also contained a higher proportion of conservative protestant religions which oppose alcohol use. (This can be seen from the fact that abstainers in these regions were most likely to cite religious or moral reasons for doing so.)

Heavy drinkers in Southern, legally dry, or rural areas heavy drinkers in such areas were also more likely to report adverse consequences. In particular, they reported more social problems while heavy drinkers in wetter areas reported more medical problems. This is consistent with Room's (1971c) reanalysis of the 1964-5 data which showed that social pressures against both drinking and heavy drinking were greater in dry areas (especially southern

areas) and that though per capita consumption tended to be lowest in southern areas, drunkenness arrests were higher. It is also consistent with Achte et al's (1969) finding that though per capita consumption in Finland is very low, problem rates are among the highest in the world (the country has a strong temperance movement). On the other hand, Giesbrecht et al (1984) in a preliminary analysis of consumption data in males from two small towns in Ontario, found a tendency towards more self-reported alcohol problems in the town for which alcohol consumption (retrospective diary and per capita alcohol sales) were greatest.

These findings suggest that the relationship between normal and abnormal drinking is complex and varies not only with the area under consideration but also with the measures employed. For example, Cahalan et al (1969) reported considerable variations in the drinking habits of residents of individual neighbourhoods in their US national survey. These appear to be the result of variation in socio-demographic and local historical drinking trends (Cahalan et al 1969; Room 1972). Moreover, Mulford (1964) found that though the relative proportions of drinkers and heavy drinkers were directly related within US regions, no such relationship was found between the proportions of drinkers with and without experience of drinking problems. Mulford & Miller (1959, 1960a,b,c,d), on the other hand, using more elaborate indices found that the proportion of heavy and dependent drinkers were greatest in those areas (i.e. urban) of Iowa with the greatest proportions of drinkers.

Further surveys of Iowa have documented increases in

consumption levels between 1961-79 which were not accompanied by increases in heavy or problem drinking rates (Mulford & Fitzgerald 1983a,b; Fitzgerald & Mulford 1981a,b, 1983). That this should be so was thought to be the result of an increase in tolerance towards social drinking, while attitudes towards intoxication remained disapproving. Alternatively, the finding may be accounted for by the relative insensitivity of Q-F type measures towards secular changes (cf Caetano et al 1982a,b, 1983 in Chapter 3.1).

Room's (1972) comparison of a 1962 survey of drinking in San Francisco with Cahalan et al's (1965) 1964-5, and to a lesser extent with Mulford's (1964) 1963 national surveys shows that the relationship between official statistics and survey data is complex. Official statistics for alcohol consumption and for alcohol-related morbidity and mortality show San Francisco to be a 'hard-drinking city'. Yet the survey data revealed that San Franciscans were no more likely to engage in heavy drinking, or to score on indicators of problem drinking than were residents of other central metropolitan urban areas, or of the Pacific region. This finding holds even after controlling for San Francisco's unique racial, religious, marital and age mix.

Room (1972) argued that the apparent discrepancy could be explained by three factors. Firstly, by virtue of geographical and political constraints, San Francisco is an 'underbounded' city: it has a relatively large inner core area and a small suburban area. Even though the liver cirrhosis mortality rate in San Francisco was twice as great as in Los Angeles, the difference was much reduced

when the comparison was based upon equivalent populations in each city (by artifically shrinking Los Angeles to its inner core, or by expanding San Francisco to give it extensive suburbs). Secondly, the "unequaled thoroughness of the (S.F.) city's coroner's office" which performs considerably more autopsies than many other cities including Los Angeles greatly increased the likelihood of diagnosis of cirrhosis in that city. Thirdly the city is a major tourist centre, thereby leading to an inflating of its per capita consumption as estimated from alcohol sales data. Room concluded that the findings suggest that "prevalence of heavy and problem drinking in San Francisco do not differ substantially from the national average for large cities. This does not mean that there are not impressive amounts of heavy drinking and total of drinking problems in San Francisco; rather, it suggests that the social statistics from other American cities do not fully reflect their equally impressive amounts and totals" (1972, p.53).

4.4 Summary

The chapter reviewed 27 UK general population surveys of alcohol consumption. Three general conclusions may be drawn:

1. The majority of adult Britons are drinkers.

2. Though drinking habits vary in accordance with the setting and with respondent socio-demographic characteristics, the latter are weak predictors of the former.

3. There is no clear-cut evidence that regional consumption patterns vary in accordance with official statistics for problem drinking.

The review was complicated by the fact that the literature was split into two camps for reporting alcohol consumption data; Q-F and retrospective seven day diary studies. There were very few points of contact between the camps (Cartwright et al 1978a,b; Wilson 1980b). The increasingly popular diary camp was further fragmented by the wide variety of published methods for presenting virtually identical data bases. This may be observed from Table 4.1 which was originally conceived as a simple, indeed elegant, means of permitting the comparison of the published literature. The table shows that there was no common method of presenting even the simplest of measures, e.g. abstention rates, or mean alcohol consumption for the past week. There were wide gaps in the range of drinking variables reported. Moreover there was no agreement concerning the amount of alcohol contained in a basic unit of alcohol. These equivalences appear to have been arbitrarily employed. For example, in 1982 Caetano et al, while reporting data from a 1975 Q-F survey of Shetland set 1 unit as being equivalent to 9.0g of pure alcohol. One year later, while comparing the data from that survey with that from a second survey conducted in 1978, this was changed to 7.9g pure alcohol. No reason for the change was given. The above comments strongly suggest that in order to facilitate comparison between future surveys, there should be some agreed format for presenting data.

The chapter also reviewed a number of surveys conducted within and between other countries. It was noted that international comparisons were few, presumably because of the inherent difficulties of mounting such an exercise. Even so, there is a gradually accumulating literature indicating that either per capita consumption (however obtained) is not a good indicator of drinking problems within a commonunity (or that standard indicators are in themselves imperfect).

CHAPTER 5

ATTITUDES TOWARDS ALCOHOL USE AND MISUSE

There is a very large and diverse literature concerned with attitudes towards alcohol use and misuse. The literature contains reports upon the development among pre-school children of knowledge about, and attitudes towards, alcohol use (e.g. Jahoda et al 1980); attitude change in primary and secondary school children (e.g. Jahoda & Crammond 1972); general public (adult) attitudes towards drinking, drunkenness and alcoholism (e.g. Dight 1976); drinking norms (e.g. Ritson et al 1981; Solomon & Hurford 1984); reasons for drinking (e.g. Cahalan et al 1969); expectations about the effects of drinking (e.g. Crawford 1984a,b); alcohol dependent patients' attitudes about alcoholism (e.g Uecker & Boutilier 1976); descriptions/evaluations of alcohol education programmes (e.g. Samuel 1984); analyses of attitudes presented in a number of forms of entertainment (e.g. Chalfant & Beckley 1977; Lowery 1980) and advertising (e.g. Finn 1980; Marsteller & Karnchanapee 1980). There is also an 'extremely diverse and widely scattered' (Heath 1976, p.38) anthropological literature on the subject.

Given the sheer diversity of populations studied, hypotheses addressed and instruments employed, a complete literature review is beyond the scope of this chapter (long overdue as it may be). The anthropological literature will be ignored. So too will be those studies which seek to classify entire cultures, societies and nations by their attitudes (e.g. Bales 1946; Pittman 1967) or which

concentrate upon children, health care professionals or dependent drinkers. The chapter will concentrate upon, firstly, surveys of adult attitudes towards alcohol use and misuse, and, secondly, investigations of the nature of the relationship between attitude and behaviour. No attempt will be made to extensively document individual items. Such an exercise would simply result in a book of lists.

5.1 Factors Influencing Attitudes Towards Drinking and Drunkenness

In many communities drinking to intoxication is less acceptable than social drinking. Evidence of this can be observed from recent comparable surveys in Canada, Iceland, Mexico, Norway, Scotland, Sweden, Zambia (Ritson et al 1981; Smart & Liban 1981; Makela 1983, 1984), and from others conducted in England (O'Conner 1978; Shaw et al 1978; Yates et al 1984; Breeze 1985), Ireland (O'Conner 1978), Australia (Resler 1970), Canada (Giesbrecht & McKenzie 1983; Liban & Smart undated), the USA (Maxwell 1952; Globetti 1971; Chu 1972; Paine 1977; Mulford & Fitzgerald 1983), Japan (Sargent 1967), Mexico (Natara et al 1983) and Honduras (Natara et al 1983). Intoxicated persons are given less credence than those who are sober (Suls 1978). But the nations differ in the degree of discrepancy between toleration of different consumption levels. Indeed, Makela (1983) reports that Finland differs from other Scandinavian countries in that intoxication is more acceptable than alcohol per se. Tolerance is also affected by many other factors, some of which are discussed below.

Public reactions to drinking controls are mixed. Respondents in several countries believe that public drunkenness or drunken driving should be controlled by stiffer legal sanctions or education (Dight 1976; Maki 1978; Brewers' Society 1979, 1981; Grichting 1983; Hingson et al 1983). Some studies show that few people favour trade controls in order to control drunkenness or alcoholism (Brewers' Society 1979, 1981; Grichting 1983). Indeed there is widespread local approval for the recent liberalisation of Scottish licensing laws (OPCS 1985). On the other hand, others have found that in France respondents favoured drinking controls (Bastide 1954) and in Canada (Goodstadt et al 1978) a substantial proportion of respondents were prepared to accept price increases as a control measure for alcoholism.

5.1.1 The Respondent

Attitudes towards alcohol use and misuse are influenced by respondent characteristics. Taken together several studies show that a greater tolerance towards drinking and/or drunkenness has been found among those who are male, young, or who are regular or heavier drinkers (Maxwell 1952; McCarthy 1959; Cahalan et al 1969; Resler 1971; Orford et al 1974; Dight 1976; Paine 1977; O'Conner 1978; Ritson et al 1981; Kilty 1980; Smart & Liban 1981; Blaxter et al 1982; Harford 1983; Mulford & Fitzgerald 1983; Caetano 1984; Liban & Smart, undated). Decreased tolerance has typically been found among respondents who reside in legally dry (Priyadarsini 1981), largely abstinent (McCarthy 1959) or rural areas (Fischer 1975; Mulford & Fitzgerald 1983). Religion is also important.

Greater tolerance has been found among those who had either no religious affiliation (Smart & Liban 1981; Jolly & Orford 1983) or were not of protestant denominations (McCarthy 1959; DHSS 1984). Blaxter et al (1982) reported that those belonging to protestant denominations in the Western Isles were more likely to regard heavy drinking as being a problem within their community.

The literature regarding socio-economic status is more confused. It has been variously reported that American high school students from low income families were most disapproving of drinking (McCarthy 1959); that higher socio-economic status (SES) American adults were least likely to say good things about alcohol (Cahalan et al 1969); that higher SES adults in Scotland were most approving of drinking but least so of drunkenness (Dight 1976; Ritson et al 1981); and that SES had no effect upon attitudes towards drunkenness in Ontario (Smart & Liban 1981). Breeze (1985) reported very minor differences in attitudes towards drinking by respondents who were resident in lower or higher status areas.

Ethnicity also appears to affect attitudes. Several surveys have been conducted in and around San Francisco. Chu (1972) found that males aged 50 and over from a 1971 Chinese community survey were more disapproving of drunkenness than were whites drawn from a 1967 survey. Knupfer & Room (1967) reported that Jewish males held less extreme views towards drunkenness than did Irish or white protestant males. Caetano (1984) found that Hispanics (males in particular) were more approving of drunkenness than were either blacks or whites. Moreover, the relative contributions of factors

such as age, education and respondent sex to the prediction of alcohol attitudes varied between the ethnic groups.

Kinder (1975) in a review of a number of earlier surveys observed that "demographic variables were not generally consistently related to attitudes" (p757), this being so because "an analysis of demographic differences in many of these studies appears to have been little more than an after thought, at least when one considers the designs and methodology used. Consequently, a large number of uncontrolled variables are introduced which makes a really concise measurement of these demographic variables almost impossible. The most obvious problem occurs when there are not enough subjects in any one demographic category to make an analysis meaningful; however, this fact appears to have been overlooked by many of the authors already cited" (p.750-1).

5.1.2 The Drinker

Drinking, especially in bars, or to the point of intoxication, has been shown to be tolerated less for females than for males in many countries (Lawrence & Maxwell 1962; Knupfer 1964; Sargent 1967; Dight 1976; Paine 1977; Ritson et al 1981; Smart & Liban 1981; Matross & Hines 1982; Giesbrecht & McKenzie 1983; Caetano 1984; Breeze 1985). On the other hand, respondents in Camberwell (Shaw et al 1978) believed that women were least affected by alcohol. In Scandinavia, little difference in the perceived permissible starting age for drinking was observed for each sex (Makela 1984). There was, however, evidence that the acceptability of female drinking varied

within nations. Female drinking in public was less acceptable in the Western Isles (Blaxter et al 1982) than in Scotland as a whole (Dight 1976). And Californian whites were more tolerant than either blacks or hispanics towards women occasionally getting drunk (Caetano 1984).

There are also considerable variations in attitudes towards drinking by young people. Drinking, and drunkenness especially, by 16 year olds was not widely approved in either Scotland (Ritson et al 1981) or Canada (Smart & Liban 1981). But teenage drinking was more acceptable in some countries (O'Conner 1978) and in some regions of countries (Priyadarsini 1981) than in others. Though the most acceptable starting age for drinking in several European countries, including the UK, is about 18 years (Brewers' Society 1979, 1981; Makela 1984) many vice-principals in Ontarian schools were opposed to a reduction in the minimum age from 21 to 18 (Smart & Schmidt 1975). Many New Zealanders believed that underage teenagers should be taught to drink in moderation by their parents (Gregson & Stacey 1980, 1981). Finn (1979) reported that there was a lack of consensus within the USA towards teenage drunkenness, and identified at least six schools of thought ranging from regarding such behaviour as youthful boisterousness to indications of alcohol dependence.

5.1.3 The Setting

Some drinking settings are more acceptable than others. In Sydney, Australia it was thought to be more acceptable for 18-19

year olds to drink at a party than it was for them to be 'egged on' to drink in hotel bars (Resler 1970). British 16-24 year olds regarded drinking as essential in pubs and at parties (Darlington & Byrne, undated). With the exception of Londoners, they also preferred to drink at a bar before going on to night clubs or to discos (because of the expense). Solitary drinking was disapproved by respondents in the USA (Kilty 1980; Harford 1983), and especially frowned upon for single females in bars by English 18-21 year olds (O'Conner 1978). The latter also disapproved of single sex drinking groups. American general aviation pilots believed it was safer to drive a car after drinking alcohol than to fly (Damkot & Osga 1979).

Both drinking and slight intoxication are more acceptable in leisure settings or as part of special occasions than in settings with social or legal constraints (Roizen 1972; Ritson et al 1981; Smart & Liban 1981; Solomon & Harford 1984); Liban & Smart undated). Moreover, those adverse consequences of intoxication which involve innocent others were regarded as being more serious than those which do not (Ritson et al 1981; Smart & Liban 1981).

Laboratory studies in which subjects effectively acted as jurors, have shown that greater responsibility was accorded to, and heavier sentences meted upon, intoxicated drivers involved in accidents. But these judgments were mitigated by other factors including road conditions, extent of damage, and loss to victim (Pliner & Cappell 1977; Connors et al 1982). Others have shown that

the interpretation of, and reaction to, violent acts was influenced influenced by the knowledge that the actors were intoxicated (Sobell & Sobell 1975; Richardson & Campbell (1980); Corenblum 1983). Richardson & Campbell (1980) found that, though after reading a vignette about wife abuse subjects blamed husbands, situational factors were more likely to be blamed if he were drunk. On the other hand, intoxicated women received more blame for the incident than were those who were sober. And Corenblum (1983) found that female respondents attributed more responsibility to the abused wife when both spouses were intoxicated.

5.1.4 The Beverage

Young people in Britain believed beer to be the most acceptable alcoholic drink for male peers (Aitken 1978; Darlington & Byrne, undated). Darlington and Byrne's report of young people's (16-24 years) group discussions found that cider was regarded as a beginner's drink and that whisky was for older, heavier drinkers. Lager and lime was regarded as a drink for "effeminate men such as 'John Travolta' types" or, when consumed out of a straight glass, by girls.

Various adult studies have associated whisky with heavy drinking. Indeed, whisky is traditionally associated with power in Ireland (Bales 1962); regarded as being more harmful than beer in Northern Ireland (Yates et al 1984); as a heavy drinker's beverage by Scottish alcohol drink trade workers (Plant 1979) and Western Islanders (Blaxter et al 1982); and thought to be most responsible

for drunkenness in the France of the 1950s (Bastide 1954). Moreover, respondents drawn from two English cities (Budd et al 1983), Scottish drink trade workers (Plant 1979), and from American general aviation pilots (Damkot & Osga 1978) believed whisky to be more potent than beer. And respondents (especially women) in two areas of England believed spirits to be more potent than beer (Breeze 1985). Dobkin de Rios (1979) reported that at least one Mexican migrant (to USA) tubercular patient believed that beer contained no alcohol.

5.1.5 Time

Attitudes change over time. Two cross-sectional surveys conducted in 1961 and 1969 in the traditionally conservative and relatively abstinent state of Iowa, found a marked increase in the endorsement of attitudes towards moderate but not excessive drinking (Mulford & Fitzgerald 1983). The changes accompanied an overall increase in consumption levels over that period. Recent increases in consumption levels by Scottish women have been attributed to a general relaxation in attitudes towards drinking in general, and women in particular, rather than to changes in licensing laws (OPCS 1985). Blane (1977) suggested that attitudes and habits change towards the norms of the new community by successive generations of migrant communities within the USA.

These attitudinal changes may reflect wider social issues. Several authors (Keil 1978; Wilks & Callan 1984; Ahlstrom 1983; Makela & Simpura 1984) have argued that female attitudes towards

drinking are becoming more tolerant as a result of recent general changes in their roles. Makela (1984) suggested that the apparently increasing process towards regarding drinking as a family activity, as opposed to a purely adult activity, may have started earlier in Sweden than in other Scandinavian countries.

5.1.6 Technical Issues

The most obvious source of difficulty in comparing attitudinal surveys arises from the use of different and often incomparable items. But even when items appear to be tapping the same or similar areas, differences in the phrasing of questions may assume major importance. Gregson & Stacey (1980), for example, found that though about 75% of adult New Zealanders believed that most under 18 year olds drink too much, 58% thought that most young people drink sensibly. The substantial differences in attitudes towards alcohol use which appeared to exist between adults in the Scotland of 1972 (Dight 1976) and the USA of 1965 (Cahalan et al 1969) may be explained by the use of (deliberately)provocative and ill-defined questions by the former (e.g. "It's degrading for women to be seen drinking in public houses") and of open-ended questions requesting a listing of good and bad things about drinking by the latter. For example, though 80%+ of Scots believed that drinking increases sociability, and 65%+ though that it caused immorality, the figures in the USA were 26% and 3% respectively.

Some of Dight's (1976) items were used in later localised Scottish surveys (Ritson et al 1981; Blaxter et al 1982). All

reported widespread endorsement of pro- and anti-drinking and drunkenness statements. Yet respondents in one of these surveys, when presented with items regarding age and situational norms, were relatively tolerant of both drinking and mild intoxication (Ritson et al 1981). This discrepancy may be explained by the possibility that the crude attitudinal statements simply evoked knee-jerk responses in comparison to the relatively finer judgements required for the normative questions.

Difficulties may even arise when identical questions are used in different surveys. Makela (1981) reported problems in interpreting questions concerning responsibility and drunkenness from identical surveys of four Scandinavian countries because of the complex phrasing of questions. The fact that both Ritson et al (1981) and Blaxter et al (1982) employed restricted and different subsets of Dight's (1976) attitudinal items begs questions about firstly, how items were selected and secondly about the significance of differences in responding to these items (i.e. whether the differences were specific to the selected items only). Moreover, translating items from one language to another may also create inconsistent results (Sargent 1971; Armyr 1983). That this should be so may be the result of cultural differences in the subjective meanings of the terms "drinking" and "drunkenness" (Knupfer & Room 1967; Kunitz & Levy 1974; McKechnie 1980; Yates et al 1984). Indeed, they may simply reflect differences in knowledge about the effects of alcohol. It has been found that there may be fairly widespread public ignorance in the USA about the effects of alcohol (Maxwell 1952; Buckalew 1979). Moreover, Jolly & Orford (1983)

reported that members of a British University Christian Union were less knowledgeable about alcohol than were those who were not members of a religious society.

5.2 Attitudes Towards Alcoholism *

5.2.1 General attitudes

It is clear from a number of surveys conducted in different countries, and from laboratory studies that alcoholics are not well regarded by the general public. They are less popular than many other deviant groups (Simmons, 1969; Ries, 1977), and are liable to social rejection or mistrust (Blizard, 1969, 1971; Ries, 1977; Kilty, 1975, 1978a, Kilty & Meenaghan, 1977; Orcutt & Cairl, 1979; Ritson et al, 1981; de Silva, 1983; Cash et al, 1984). The label "alcoholic" is subject to many perjorative connotations (Cash et al, 1984), which are magnified when associated with sickness (Rule & Phillips, 1973). Stigmatisation also extends to the spouses of alcoholics (Stafford & Petway, 1977; Wilson, 1984). Recent reviews have suggested that female heavy drinkers are doubly stigmatised because they violate norms for women and for drinkers (Lindbeck, 1972; Beckman, 1975; Gomberg, 1976). Stafford & Petway (1977) however report that female alcoholics are no more stigmatised than are males.

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* All of the literature cited in this section employ the terms "alcoholism" or "alcoholics".

It is also clear that members of the general public of many countries are able to define 'alcoholism', and that they are in broad agreement with clinicians and alcohol researchers (Marcus 1963a,b,c; Mulford, 1977). Heavy drinking per se is perceived to be an insufficient cause of alcoholism; rather, alcoholics are also thought to have a compulsion to drink, to do so for personal reasons (see section 5.3.1), and to experience serious adverse consequences from their drinking (Dight,1976; Mulford, 1977; McKirnan, 1977, 1978; O'Conner, 1978; Plant et al 1979; Rodin, 1981; Blaxter et al, 1982; Budd et al, 1983; Hingson et al, 1982; Matross & Hines, 1982; O'Brien et al, 1982; Breeze 1985).

There are widespread differences in the perceived cut-off point between problem and non- problem drinking. McKirnan (1977) found that residents in lower SES neighbourhoods in Canada adjudged the highest quantities of alcohol typically consumed by 'social', 'problem' and 'alcoholic drinkers'. Marcus (1963c) reported that respondents from a general population survey generally different only in respect of intensity rather than in direction of attitudes towards alcoholism when compared with staff from the Addiction Research Foundation in Toronto. Moreover, Breeze (1985) found that the highest estimates for a typical drinking session by a male heavy drinker were offered by male, heavy drinkers who were resident in lower status parts of areas with high risk of problem drinking in England. Others have reported considerable differences in the perceived seriousness of drinking problems within and between countries (Cahalan et al, 1969; Beigel et al., 1974, O'Conner, 1978;

Budd et al, 1983; Armyr, 1983).

The differences may reflect variation in actual drinking practices between communities. But other factors have been implicated. Negrette (1973) found different social manifestations of alcoholism among three distinctive cultural groups in Montreal. Budd et al (1982) suggested that differences in the perceived magnitude of drinking problems in Newcastle and Leicester may have been as much to do with the belief in area stereotypes, as in actual drinking practices. Blaxter et al (1982) found that (largely incomer) health care professionals perceived higher levels of alcohol related problems in the Western Isles than did native residents.

5.2.1 Attitudes about etiology and treatment

Surveys in a number of countries have revealed little public consensus about the etiology and treatment of alcoholism (Riley 1949; Maxwell, 1952; McCarthy & Fain, 1959; Marcus 1963a,b,c; Mulford & Miller, 1961, 1964; Blizard, 1969; Haberman & Sheinberg,1969; Linsky, 1972; Beigel et al, 1974; Sobell & Sobell, 1975; Caddy et al, 1976; Dight, 1976; Rix & Buyers, 1976; Tolor & Tamerin, 1976a, b; McKirnan, 1977, 1978; Ries, 1977; Shaw et al, 1978; Orcutt & Cairl, 1979; Orcutt et al, 1980; Ritson et al, 1981; Rodin, 1981; Blaxter et al, 1982). Commenting upon their finding that, of those respondents from Orange Country, California who believed that alcoholics were in control, responsible and accountable for their actions, 53% nevertheless believed that

alcoholism is a disease, Sobell & Sobell wrote "it appears that respondents' answers, contrary to expectations, clearly do not have a rational base. Moreover, many individuals seem to hold paradoxical views about alcohol and drunkenness, their associated effects and their origins" (1975, p.877). More gently, Linsky when discussing the findings from a 1962 survey of Vancouver, Washington USA wrote"it would seem reasonable to conclude that at the present time beliefs about alcoholism are not tightly integrated into consistent ideologies among the public" (1972, p.52).

More specifically, there are a number of means by which the general public conceptualises alcoholism and its treatment. Linsky (1972), for example, identified five popularly held types of causal explanation i.e. 'biological', 'character (in moral terms)', 'personality (in psychological terms)', 'psychological reaction to situational problems', and lastly 'alcohol itself and social drinking'. Each of these models was particularly associated with specific treatments. Respondents who subscribed to a 'biological' model were most likely to propose medical help; 'character' models proposed legal controls and exhortation to willpower, 'personality' and 'psychological' models offered psychological help; and 'alcohol' models suggested willpower. But fewer than 50% of the adherents of these models subscribed to its most commonly proposed treatment. In effect there was no overall agreement regarding the relationship between etiological models and advocated treatment. A similar lack of agreement has been noted elsewhere (McCarthy & Fain, 1959; Marcus 1963a,b,c; Mulford & Miller, 1964; Blizard, 1969; Haberman & Sheinberg, 1969; Rodin, 1981).

The most frequently proposed or known sources of treatment for alcoholism tend to be Alcoholics Anonymous (especially) , medical treatment, treatment centre personal intervention, family, clergy (Mulford & Miller, 1964; Haberman & Sheinberg, 1969; Beigel et al, 1974; Dight, 1976; Paine, 1977; Ritson et al, 1981; Rodin, 1981; Blaxter et al, 1982; Budd et al, 1983; Giesbrecht et al, 1984; Yates et al, 1984). Studies which employ open-ended questions, however, tend to find that personal or family based interventions are most frequently mooted (Dight, 1976; Paine, 1977; Budd et al, 1982; Yates et al, 1984) or to report few differences in the average number of agencies mentioned (Plant et al 1979). But the perceived legitimacy of particular intervention sources (bystanders or neighbours, police, relatives, treatment, authorities) varies with the situation (Ritson et al 1981; Smart & Liban 1981). Moreover, respondents in a recent survey in England reported that they would be more likely to intervene for a friend's drinking pattern when their general life style was affected rather than because of their drinking habits per se (Breeze 1985).

This lack of agreement between etiology and treatment can be observed in British surveys. Rix & Buyers (1976) found that a small sample of Aberdonians endorsed both illness and moral weakness concepts. Scots as a whole (Dight, 1976) blamed alcoholics for their condition, were unwilling to spend public money treating them, mistrusted them even when cured, yet largely disagreed with the statement "doctors shouldn't waste time on alcoholics". Inhabitants of the Western Isles (Blaxter et al, 1982) endorsed these statements

but were more prepared to spend money on them. Residents of Lothian Region (Ritson et al, 1981) believed that people with alcohol problems would be successfully treated, did not believe in punishment, and accept that community aid should be made available, but fewer than 40% wanted a treatment unit to be located near their home. An identical survey in Ontario, Canada (Smart & Liban, 1981) produced very similar results, the exception being that most were prepared to accept a local treatment unit.

Many of the studies have considered the characteristics of people who endorse particular models. For example, it has been suggested that attitudes to alcoholism can be related to more general "world views" (Ries, 1979; Orcutt & Cairl, 1979). Those who are most likely to endorse moralistic models, to be less optimistic about treatment and more rejecting towards alcoholics were usually older, of lower SES, less well educated, male and are lighter/less frequent drinkers or abstainers (Marcus 1963b; Mulford & Miller 1964; Blizard, 1969; Dight, 1976; Ries, 1977; Orcutt & Cairl, 1979; Ritson et al, 1981; Rodin, 1981; Smart & Liban, 1981).

There is, however, evidence that attitudes to alcoholism, like those towards alcohol use per se are not static within societies. Linsky (1970-1971) found marked changes in beliefs as expressed in popular magazines within the USA over the period 1900-1966. Others have noted increasing endorsement of at least part of the disease model within the USA (Haberman & Sheinberg 1969; Orcutt et al, 1980; Rodin, 1981). Ritson et al (1981) recently suggested that, in Scotland, public acceptance of the disease model was increasing while

professional attitudes were moving away.

5.3 Attitudes and Behaviour

Common to much of the literature reviewed thus far is the assumption that alcohol-related attitudes are associated with behaviour. This section is devoted to those studies which have investigated the nature of the relationship. Little attention will be paid to several essentially mechanical exercises which have considered the applicability of traditional attitude scaling techniques (Veevers 1971), multiple regressions (Stewart 1973; Heubner et al 1976; Gregson & Stacey 1981), or cross-lagged panel analysis (Kahle & Berman 1979) to predicting drinking behaviour. Such atheoretical exercises have done little other than reaffirm that attitudes are generally weakly associated with behaviour.

5.3.1 Reasons (or Motivations) for Drinking

People drink alcohol for a variety of reasons. Theoretical and empirical classifications of these reasons typically result in upwards of two groupings (Bales, 1946; Riley et al, 1948; Mulford & Miller, 1959, 1960c; Cisin, 1963; Knupfer et al, 1963; Cahalan et al, 1969; Edwards et al, 1973; Fallding & Miles, 1974; Deardorff et al, 1975; Dight, 1976; Dobkin de Rios & Feldman, 1977; Jung, 1977; Stein & Bowman, 1977; Wanberg et al, 1977; O'Conner, 1978; Russell & Bond, 1979, 1980; Farber et al, 1980; Segal et al, 1980; Glynn et al, 1983; McCarty & Kaye, 1984). Essentially these different groupings can be more or less formed into three superordinate

categories (the names of which have been borrowed from Cahalan et al (1969), and Dight (1976)). These are:

(a) 'social' reasons which refer to social obligations (e.g. 'to be sociable', 'its the polite thing to do', 'the people I know drink') and to celebration (e.g. 'to celebrate a special occasion').

(b) 'psychological effect' or 'escape' reasons which refer to avoidance (e.g. 'to forget worries', 'to reduce anxiety') and to sensation seeking (e.g. 'to feel happy', 'to feel relaxed', 'to gain confidence').

(c) 'intrinsic' reasons which refer to the pleasures derived from alcohol per se (e.g. 'to improve appetite', 'to quench thirst', 'to enjoy the flavour').

Though social reasons are believed to denote alcohol's function as a 'social catalyst' and escape reasons to its use as a drug, intrinsic reasons are thought to have neither social nor psychological significance (Cahalan et al, 1969). Taken together, the most commonly listed, or most highly rated reasons refer to sociability, celebration, relaxation, creation of pleasant feelings, politeness, friend's drinking habits and to flavour (Riley et al, 1948; Maxwell, 1952; Straus & Bacon, 1953; Cahalan et al, 1969; Edwards et al, 1973; Siassi et al, 1973; Dight, 1976; Ritson et al, 1981; Wechsler & Rohman, 1981; Blaxter et al, 1982; Wilks & Callan, 1984; Yates et al, 1984; Johnson et al 1985). In addition, youthful drinkers also typically cite peer pressure, curiosity and the desire

to be adult (Mandell et al, 1962; Straus & Bacon, 1953; Cockerham, 1975; O'Conner, 1978; Darlington & Byrne; Karsikas et al, 1981; Heatherington et al, 1979; Kimes et al, 1969). Reasons for drinking have been associated with family experience (Cutter & Fisher 1980), personality (Snowden & Campbell 1984) and mystical experiences (Sorenson & Cutter 1982), but have not been conclusively linked with demographic variables (Bales 1946; Orford et al 1972; Edwards et al 1973a; Siassi et al 1973; McQueen & Celentano 1984).

The most frequent reasons for abstaining include religious/moral grounds, concern for health or costs, fear of loss of control, peer/parental pressure, dislike of flavour and lack of desire to drink (Maxwell 1952; Straus & Bacon 1953; Cahalan et al 1969; Heatherington et al 1979; Liban & Smart 1981; Ritson et al 1981; Natara 1983; Johnson et al 1985). Cahalan et al's (1969) American study found that men were more likely to emphasise health and financial reasons and women religious/moral reasons or a lack of desire or need for alcohol. Members of ascetic religions were more likely to suggest moral reasons.

Some studies (Bales, 1946; Straus & Bacon, 1953; Cahalan et al, 1969; Siassi et al, 1973; Ritson et al, 1981; Wechsler & Rohman, 1981; Yates et al, 1984) show a clear separation between endorsement of social and escape reasons, with the latter being relatively uncommon or unimportant. Others report an intermingling between both groups (Edwards et al, 1973; Dight, 1976; O'Conner, 1978; Blaxter et al, 1982; Wilks & Callan, 1984). And in the Western Isles of Scotland, escape reasons tend to be of more importance than

social reasons (Blaxter et al, 1982). This may reflect genuine differences (e.g. O'Conner, 1978). But it should be noted that those studies which show a clear separation of groupings either presented items in terms of perceived importance (Bales, 1946; Straus & Bacon, 1953; Cahalan et al, 1969; Siassi et al, 1973; Ritson et al, 1981; Wechsler & Rohman, 1981) or desirability (Yates et al, 1984).* Studies with no separation simply enquired about whether alcohol had ever been consumed for a given reason (Edwards et al, 1973; Dight, 1976; O'Conner, 1978; Blaxter et al, 1982; Wilks & Callan, 1984). This methodological difference can exert a major influence upon findings. Dight (1976), for example, found that, of the 22% of Scottish male regular drinkers who endorsed drinking alcohol "to cheer myself up", fully 61% when further questioned stated that it was not an important reason for their doing so.

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* Johnson et al (1985) found a clear separation in their study of ethnic groups in Hawaii, but it is unclear how the questions were framed.

Escape drinking is regarded as being less normatively controlled and less acceptable than social drinking (Bales 1946; Mulford & Miller 1960d: Cutter & O'Farrell 1984). The association between escape and heavy drinking can be observed in a number of studies. For example, heavier drinkers are most likely to cite escape reasons (Mulford & Miller 1960c, 1963; Abu-Laban & Larsen 1968; Edwards et al, 1973; Dight 1976; Blaxter et al 1982); they more often drink for such reasons (Siassi et al 1973; Glynn et al 1983); and they are particularly likely to rate such reasons as important (Mulford & Miller 1959; Cahalan et al 1969; Stein & Bowman 1977; McCarty & Kaye 1984). Heavy drinkers who are also escape drinkers are more likely to report problems than those who are not (Cahalan et al 1969). Moreover, dependent drinkers often state that they drink for escape reasons (Mulford & Miller 1960c,d; Hoffman et al 1971; Deardorff et al 1975; Demerdash et al 1980, Farber et al 1980; Beckman & Bardsley 1981). Heavy drinking females have been shown to be particularly likely to do so for escape reasons (Riley et al 1948; Cisin 1963; Cahalan et al 1969; Dight 1976).

Though the above findings associate reasons with consumption they do not entail a causal relationship. Firstly, not all escape drinkers are also heavy drinkers and, conversely, not all heavy drinkers are escape drinkers. Several studies show that a high proportion of their (non-dependent) respondents have drunk for escape reasons (Maddox & Borinski 1964; Mulford & Miller 1963; Cahalan et al 1969; Dight 1976; O'Conner 1978; McQueen & Celentano 1984; Wilks & Callan 1984). And Cahalan et al (1969) found that only 48% of their heavy drinkers were also escape drinkers.

Secondly, and relatedly, escape reasons do not account for all heavy drinking episodes. Certain occupations, for example, create a higher risk for frequent and heavy drinking (Plant, 1979). Moreover, heavy drinkers are often reported as also being most likely to endorse non-escape reasons (Deardorff et al 1975; Dight 1976; Wechsler & Rohman 1981; Heatherington et al 1979; Wilks & Callan 1984). Thirdly, not all escape reasons are associated with increased consumption and conversely, not all social reasons are associated with reduced consumption (Jung, 1977). Glynn et al (1983) found that social reasons related to drinking at bar/work/sporting events and with friends/strangers of own sex were related to drinking problems in males. And festival drinking, (e.g. celebrating new year, sporting wins etc) often involves large numbers of people drinking to excess (Morgan, 1982; O'Donnell, 1982). Finally, even socially desirable reasons for drinking may lead to adverse consequences. Italians, it is alleged, typically drink alcohol for intrinsic reasons, yet their country has a very high liver cirrhosis death rate (Finn, 1979).

The preceding comments show that survey questions about why people drink may not accurately predict behaviour. To some extent the published research suffers from the widespread tendency to present respondents with a list of general reasons such as "I drink to relax". Recent surveys (Celentano & McQueen 1978; Glynn et al 1983) have shown the term 'relax' contains elements relating to social and to escape reasons, and others have argued that such terms as 'anxiety' are 'big fat words' (Hodgson et al 1979). Kreitman (1983) has commented that 'reason' items suffer from the general

problem of relating motivation to behaviour; the problem of scientific verifiability. This being so, some argue that enquiries about reasons for drinking may be valueless (cf Alcohol Epidemiology Section 1983). Others maintain that though such items may not tap the causes of drinking, they are nonetheless useful for describing and understanding different drinking cultures.

5.3.2 Fishbein's Concept of Behavioural-Intention

Fishbein (1963; 1966; 1967) has argued that investigations of the relationship between attitude and behaviour typically employ inappropriate measures of attitudes and that strong correspondence will only occur when both attitudes and behaviour agree on several respects. As an example of this, McCarty et al have recently noted that "both measures should specify the same behaviours, the same object of the behaviour, and the same time and behavioural context. In other words, to predict beer drinking at a party on Saturday night, the attitude toward drinking (behaviour) beer (object) and a party (context) on Saturday night (time) should be assessed. A measure of attitude toward alcoholism is expected to be a non-significant or weak predictor of beer drinking" (1983, p.331).

Attitudes alone, however, are insufficient to predict behaviour (Fishbein, 1967). They must be used in conjunction with normative beliefs about the action. Essentially beliefs refer to the "subjective probability that an attribute and an object are related" (McCarty et al, 1983, p.322). And an attitude towards a particular object or behaviour is simply the sum total of evaluation of beliefs

(personal and social) towards that object or action (and its consequences). Normative beliefs are influenced by the individual's motivation to comply with the norm. Thus attitudes, norms and motivations combine to predict behavioural intentions, rather than behaviour. Behavioural intentions only become behaviour under appropriate circumstances. The model can be summarised by the regression equation

$$BEH \approx BI = W1[\lesssim Ba] + W2\ [NB.MC],$$

where BEH = overt behaviour, BI = behavioural intention; B = belief that performing the behaviour will lead to a consequence; a = evaluation of the consequence; NB = normative belief; MC = motivation to comply with the normative belief; and W1 and W2 are empirically determined weights. The weightings, W1 and W2 indicate that the relative strengths of attitudes and normative belief vary with the behaviour to be predicted and the setting (Fishbein, 1967; Fishbein & Ajzen, 1975). (In passing it should be noted that Huba et al (1981) attempted to predict second year students' drinking behaviour from their behaviour and expressed intentions in their first year, but no theoretical model was used.)

Though the model has been widely applied in behavioural marketing (cf Wilkie & Pessemier, 1973) research to predict, for example, brand choice in soft and alcohol beverages (e.g. Bass et al, 1972; Bonfield, 1974; Bearden & Woodside (1977a, b) there have been comparatively few 'academic' investigations of its utility in predicting drug use. Such studies as there have been report

relatively high associations between various components of the model and behavioural intention and/or actual behaviour (Schlegel et al 1977; Kilty 1978b; Beck & Davis 1980; Cook et al 1980; McCarty et al 1983; Budd & Spencer 1984a,b).

More specifically, it has been found that attitude was the best predictor of beer and marijuana use while normative belief was best for amphetamines and minor tranquillisers (Cook et al 1980). The relative strengths of attitude and normative belief were, however, dependent upon the drinking setting (Schlegel et al 1977) and upon the population studied (Kilty 1978b; Budd & Spencer 1984a). And though both specific and general attitudinal measures were strongly related to global behavioural measures, specific consumption measures were best predicted by specific attitudes (McCarty et al 1983). The motivational component appeared to be of little value in predicting intended or actual drinking behaviour (Schlegel et al 1977; Kilty 1978b).

5.3.3 Alcohol Related Expectancies

Briefly stated, alcohol-related expectancies are "cognitive representations of an individual's past direct and indirect learning experiences" (Maisto et al, 1981, p.2). In other words, it is argued that expectations about the effects of alcohol are developed not only from personal experience but also from culturally transmitted folk-lore (e.g. Mandelbaum 1965; MacAndrew & Edgerton 1969; Maisto et al, 1978). In effect it is argued that alcohol intoxication and drunken comportment are different phenomena (e.g.

Paredes et al 1975). This is confirmed by balanced placebo laboratory studies in which beverage and instructions are independently manipulated (see Marlatt & Rohsenow, 1980 for further details). Such studies have frequently shown that the pharmacological effects of alcohol may be overridden by cognitive factors. For example, male subjects who believed they had consumed alcohol, regardless of actual beverage contents, were shown to become more aggressive (Lang et al, 1975), sexually aroused (Wilson & Lawson, 1976b), less socially anxious (Wilson et al, 1980) etc. Expectancy effects were however reduced or eliminated in studies which investigated psychomotor (e.g. Vuchinich & Sobell, 1978) or cognitive (e.g. Miller et al, 1978) skills, and in those which involved self-reports of mood (e.g. Connors & Maisto, 1979).

5.3.3.1 Surveys of Expectancies

Despite the growing body of balanced placebo investigations, relatively few studies have ascertained subjects actual expectations about the effects of alcohol upon the target behaviour. Indeed, in 1978 Maisto et al wrote that "when subjects who were told they had received alcohol reported that they consumed more alcohol and felt more intoxicated than subjects told they had consumed a non-alcoholic beverage, this has been correctly interpreted as evidence of the success of the instructional manipulation. However, in these studies, researchers have gone beyond this point to interpret their findings in terms of an expectancy construct, and not in terms of instructions to receive alcohol. Although this work suggests expectancy could have mediated

subjects' responses, it is not possible to make firm conclusions without additional data on assessment of subjects' expectancies about alcohol's effects" (Maisto et al, 1978, pp.245- 246).

Several years later, the criticism still retains its force. Very few balanced placebo studies previously ascertained subjects' expectations regarding the target behaviour. Those studies which published these data show that students of both sexes expected alcohol to reduce anxiety in self and others (Wilson & Abrams, 1977; Abrams & Wilson, 1979) and to increase their own sexual responsiveness to explicit films of heterosexual activity (Bridell & Wilson, 1976; Wilson & Lawson, 1976a,b). But heterosexual males generally did not expect to respond to homosexual films (Wilson & Lawson, 1976b).

North American surveys of young people have shown that expectancies held about one's self vary with drinking experience, sex, age and quantity of alcohol considered. Indeed they appear to be good predictors of youthful drinking behaviour (Christiansen & Goldman 1983). Inexperienced drinkers tended to have global expectancies (Christiansen et al, 1982), while heavier drinkers were more likely to expect increased stimulation and aggressiveness (Brown et al, 1980; Christiansen et al, 1982; Southwick et al, 1983). And, whereas moderate drinking was expected to increase "stimulation/perceived dominance" and "pleasurable disinhibitions", heavy drinking was expected to cause more 'behavioural impairment' (Southwick et al, 1981). Younger teenagers anticipated more negative changes from alcohol use than did older teenagers (Isaacs

1977, 1979).

Two surveys of Glasgow University students (Crawford 1984a,b) indicated that males generally expected to be aggressive when they drink, and conversely that alcohol was thought to be a major cause of their aggression. Adults have been shown to associate alcohol with aggression in males and promiscuity in females (Straus & Bacon 1953; Shaw et al 1978; Dobkin de Rios 1979). It has been suggested that the initial global expectancies are obtained from external sources, e.g. family, news industry etc., but that these are later modified in the light of their own drinking experience (Christiansen et al, 1982).

5.3.3.2 Expectancy Models

Several varieties of expectancy have been mooted. Donovan & Marlatt have suggested that an expectancy is a subjective estimate that a given behaviour will result in a desired outcome and propose that "there are two categories of expectancies that influence behaviour. The first is a generalised expectancy concerning response-outcome contingencies that are elicited by a variety of situations which the person perceives as having similar stimulus properties. The second is a set of expectancies specific to a particular setting or situation. As the individual's experience or familiarity with a given situation increases, the predictive power of generalised expectancies decrease relative to situation-specific expectancies" (1980, p.1157). Bandura (1977a,b) further distinguished between 'action-outcome' expectancies which refer to an individual's belief

that a given behaviour will lead to certain outcomes and "personal efficacy" expectations which refer to "the belief that a desired behaviour can be executed or a desired outcome attained". As stated these varieties of expectation bear a strong resemblence to components Fishbein's (1966, 1967) model of behaviour-intention (see Section 5.3.2). It may therefore prove fruitful to explore Fishbein's model in the context of expectancy research (and vice versa).

Two models have been proposed to account for instructional (or expectancy) effects upon behaviour. The first is based upon the interactionist theory of emotions (Schachter 1964; Valins 1966). This theory proposes that the physiological component of emotions is non-specific and can only be interpreted as a particular emotion in the light of internal or external cues; an individual attributes emotion not from the state of arousal but from the scanning of the environment. Moreover, emotional states can be induced solely by cognitive labeling, and without experiencing pharmacologically induced physiological arousal. Applying this theory to alcohol-related expectancies Marlatt & Rohsenow (1980) argued that drinkers learn appropriate alcohol- related behaviours. They maintained that because the physiological effects of alcohol are often confounded with the situational aspects of the drinking occasion, the belief that alcohol has been consumed, irrespective of beverage contents is sufficient to elicit these learned behaviours.

Maisto et al (1981) have, on the other hand, advanced a 'reference level model of alcohol intoxication' which is intended to

simulate the events which occur during an actual drinking session. Essentially they proposed that subjective judgments regarding the effects of alcohol change over the course of a drinking session. In other words the behavioural and psychological effects of intoxication are perceived as a function of expected effects from a given amount in addition to actual and perceived levels of intoxication, context, and belief in control over ones behaviour while under the influence of alcohol. This can be observed from Young & Pihl's (1982) study in which individuals who were led to believe they were relatively less intoxicated than their peers perceived themselves to be more sober and acted in a less intoxicated manner.

5.4 Summary

The major conclusions to be drawn from this chapter are firstly, that people in many communities possess attitudes about alcohol use and abuse; secondly the expressed attitude varies in accordance with respondent characteristics, drinker characteristics, beverage and amount, setting, and time; thirdly drunkenness is less acceptable than drinking per se; fourthly the term 'alcoholism' has pejorative connotations but there is no public consensus about etiology or treatment; and fifthly few studies have considered the relationship between attitudes and behaviour.

Many of the studies reported in this chapter have noted an association between alcohol-related attitudes and behaviour. But McCarty et al have correctly argued that since Straus & Bacon's

(1953) original demonstration of this association "subsequent investigations have progressed little beyond this point" (1983, p.329). Indeed, many of these studies have reported a weak correspondence between attitude and behaviour. This is a common finding within the social sciences. In one oft-quoted review of empirical studies covering a wide range of (non alcohol) attitudes and behaviours, Wicker wrote that "taken as a whole, these studies suggest that it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviours than that attitudes will be closely related to actions. Product-moment correlations relating the two kinds of response are rarely above 0.30, and often are near zero. Only rarely can as much as 10 per cent of the variance in overt behavioural measures be accounted for by attitudinal data" (1979 p.178).

Part of the problem stems simply from the fact that simple techniques can be employed to investigate a complex topic. LaPiere in 1934 wrote "the questionnaire is cheap, easy, and mechanical. The study of human behaviour is time consuming, intellectually fatiguing, and depends for its success upon the ability of the investigator. The former method gives quantitative results, the latter mainly qualitative. Quantitative measurements are quantitatively accurate; qualitative evaluations are always subject to the errors of human judgement. Yet it would seem far more worthwhile to make a shrewd guess regarding that which is essential than to accurately measure that which is likely to prove quite irrelevant" (quoted in Wicker 1969).

Many of the studies reviewed above employed ad hoc questionnaires, some of which possessed a very low level of sophistication (e.g. Bowden 1976). Indeed there is at least one example of an author (Phillips 1976) failing to provide any information relevant to his declared aim of investigating alcohol-related attitudes. This heterogeneity of approaches precludes useful detailed comparisons between studies and, indeed, to quote Orford et al (1974, p.1319) leaves the researcher "faced with a bewildering choice of criterion variables with the help of very little evidence on the relative reliability, stability or validity of the alternatives".

CHAPTER 6

AIMS, DESIGN AND METHOD

6.1 Rationale

In Chapter 1.1 it was shown that within Britain rates of alcohol-related problems are greatest in northern regions (Kilich & Plant, 1981; Haskey et al, 1983). But in Chapter 4.3 it was noted that this pattern does not appear to be repeated with respect to alcohol consumption. Indeed, it has been reported that for either sex, mean consumption levels in Scotland are near identical to those obtained for England and Wales and that "it is mainly with respect to heavy drinking days that the surveys have confirmed the traditional image of the English as being more moderate drinkers than the Scots or Northern Irish" (Wilson, 1980a p.17). Research investigating regional differences in consumption patterns are, however, sparse and contradictory and may be influenced by variations in among other things socio-demographic factors (see Chapter 4). Indeed there is evidence that the effects of socio-demographic factors upon consumption patterns may differ by region (Room, 1972; Wilson 1980a; Breeze 1985). Attitudes also appear to be important. For example, consumption levels were found to be lower but rates of alcohol related problems higher in areas within the USA with strong anti-drink traditions (Cahalan et al, 1969). Others have suggested that culturally transmitted expectations about alcohol and its effects may strongly influence alcohol-related behaviours (Chapter 5.3.3).

6.2 Aims and Hypotheses

The present work will further investigate regional variations in alcohol consumption patterns within Britain. This variation will be related to differences in one officially collected indicator of alcohol-related problems, namely, hospital admissions for alcohol dependence. Three areas were selected for study. These were the Highland (including the Western but not Orkney nor Shetland Isles) and Tayside regions of Scotland, and part of the South East Thames Health Board (in effect 'east Kent' but hereafter referred to as 'Kent') in England. The areas were selected because of their known differences in officially recorded rates of alcohol-related problems (Kilich & Plant, 1981; Haskey et al, 1983). Of the three areas, Highland region manifested the highest problem-drinking rates, and Kent the lowest. In 1981, the first admission rates to psychiatric beds of residents in the Highlands, Tayside and Kent for alcohol dependence, abuse and psychosis (ICD-9 291, 303, 305.0) per 1,000 population were 12.5: 10.3: 1 respectively (Latcham, 1985).

The aim of the study was:

To account for the substantially higher problem-drinking rate in Highland region relative to the other areas. Given the preceding literature review it was therefore proposed that the region was characterised by one or more of the following:

(a) the greatest proportion of regular drinkers

(b) the greatest proportion of heavy drinkers,

(c) the highest mean consumption level,

(d) more heavy drinking episodes,

(e) more compressed drinking styles.

(f) more adverse consequences from drinking,

(g) less tolerance of alcohol use or misuse,

(h) the expectation of adverse effects from drinking alcohol,

(i) greater awareness of alcohol misuse and of services for problem drinkers within the community.

These hypotheses will be considered in Chapter 8 which compares the drinking patterns of, and attitudes to alcohol held by, males and females (separately from each area). Chapter 9 will consider the further possibility that area differences are more prominent within, or specific to, particular population sub-groups. Accordingly, the data are analysed for respondents of each sex who are further distinguished in terms of various consumption, socio-demographic, and attitudinal factors.

Fig. 6.1 Map of Britain showing the three areas studied and their principal towns

Source: Latcham (1985)

6.3.1 Highlands and Islands

For the purposes of this study, the Western Isles were included in the Highland Region. The region contains the largest land area in Britain (excluding Northern Ireland) but the lowest population density (Table 6.1, Figure 6.1). Most of the population live in a narrow coastal area bordering the Moray Firth. Much of the landscape is dominated by mountain, loch and moorland, and is rich in scenic beauty, but poor in natural resources.

The main sources of employment are crofting, agriculture, forestry, fishing and tourism, though there are pockets of important major industries. The discovery of oil in the North Sea has had a major impact on the Eastern Highlands, but the "benefits" are proving

to be shortlived. The Region has consistently suffered from poor communications. Indeed the first roads were only developed in the 18th century, and because of the geographical difficulties such transport facilities as there are have been heavily subsidised since 1745 (Fullerton, 1982). Cottam et al. (1981) argue that insularity and underdevelopment have resulted in higher prices and lower standards of retail provisions, infrequent public transport, higher fuel and energy costs, poorer medical, leisure and school facilities than in most other regions.

6.3.2 Tayside

Tayside, which is divided into the sparsely populated highlands and the more urbanised lowlands by the Highland Boundary Fault, is a moderately sized Region (Figure 6.1). Most people live in the coastal arc between Montrose and Perth, accounting for 80% of the population in less than 2% of the land area (Roope 1982).

Because of its major rivers - Earn, Tay, Tummel, Garry and Esk - Tayside has been described as Scotland's "Region of Rivers" (Roope 1982). The Region has a higher than average percentage of farmland and, indeed, is one of Scotland's major agricultural areas. Dundee, its main city, is the centre of a wide industrial and commercial economy. The city has, however, suffered from the erosion of traditional industries and from the contraction of newer American subsidiary companies (Manners 1980). Tayside, as defined by average

gross weekly earnings for both sexes, and by gross domestic product* is one of Britain's poorer Regions (Table 6.1).

6.3.3 Kent

Kent is the oldest recorded place name in the British Isles. The county is located in the most heavily populated and prosperous area of Britain, South East Region (Law, 1980; Manners et al, 1980: House, 1982; Moore & Rhodes, 1982). It has the second largest land area of any county in South East Region, though it ranks only as the 7th (out of 13) most populous. Kent is located in the lower half of "prosperity tables" in terms of average gross weekly wages for both sexes and GDP for counties in that Region (Regional Trends, 1982).

The county is known both as "The Gateway to Europe" and "The Garden of England"; the former because of its many major ports in close proximity to Europe and the latter because of the quantity,

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* Gross Domestic Product (GDP) is a measure of Regional Accounts which is, for each Region derived from the equation:

GDP = income from employment + income from self-employment + gross trading profits and surplusses + rent - stock appreciation

(Scottish Abstract of Statistics 1982)

quality and variety of its agricultural produce. Kent has been described as "..... a county of variety and contrast: industrial towns and coastal resorts; marshlands, downs and weald; attractive villages in verdant rural settings but also extensive mineral workings and, in East Kent, three collieries. Traditional Kentish industries like papermaking and cement manufacture are located in North and Mid-Kent, almost exclusively along the banks of the Rivers Thames and Medway. In East Kent, tourism is a major industry and the attractions include world famous Canterbury and seaside resorts like Broadstairs and Margate" (Roope 1982 p.719). Because of the close proximity of Kent to London, there is large scale movement of commuters and holiday makers between them.

6.3.4 The Three Areas Compared

Of the three areas, Highland Region has the greatest land mass but lowest population density, the reverse being true for Kent (Table 6.1). Because of the disparity in the years to which the various vital statistics apply, it is difficult to be definitive about regional differences. Nevertheless, consideration of recent statistics (Registrar General Scotland 1980; Monthly Digest of Statistics, 1982; Regional Trends, 1982; Scottish Abstract of Statistics, 1982), as available, reveals that of the three areas in 1980, Kent had the highest gross weekly earning for both sexes, but that in 1977 it had the lowest GDP. This was so because of the high levels of regional aid to Scotland (Moore & Rhodes, 1982). All three areas had relatively similar employment profiles for 1978. During the four-week data-gathering period, Kent had the

lowest unemployment rate and Tayside the highest rate (Department of Employment, 1982).

TABLE 6.1: VITAL STATISTICS FOR THE THREE AREAS

	Population (000's)	% of British Pop.	Area (sq.kms)	% of British Land Area	Persons/ sq.km.	Average Gross Weekly Earnings[2] (1980) Males 21+	Females 18+	Gross Domestic Product (GDP)[3] (1977) £ per head	Unemployment Rate (%) 1982 Sept.9	Oct.14
Kent	1463.8	2.6	3731	1.6	392.3	125.5	74.7	1971	12.5	11.7
Highland	220.9[2]	0.4[2]	28289[2]	12.5	7.8	121.1[3]	72.8[3]	2203[4]	12.9	13.7
Tayside	399.2	0.7	7493	3.3	53.3	109.3	67.6	2115	14.7	14.2

1. Excluding Northern Ireland
2. Includes Western Isles
3. Excludes all islands
4. Includes all islands

6.4 Sample Design *

6.4.1 Electors

A two-stage probability sample in each of the three regions was utilised with the intention of selecting 40 clusters of 40 named electors in each area. This multi-stage sampling with clustering procedure was adopted in preference to a purely random approach because it allowed a higher daily 'strike rate' by interviewers.

The first stage sampling unit comprised polling districts or, in rural areas, civil parishes. To ensure a geographical spread of clusters in each region, the polling districts were ordered by size of population (largest to smallest) within the ward. Wards were similarly ordered within each parliamentary constituency. A cumulative total of electors in each district was then formed in order to allow a systematic sample of 40 polling districts, each having a probability of selection proportional to its number of electors. The selection was made by dividing the cumulative total (N) on the list by 40 and randomly choosing a number between one and N/40. The number, which corresponded to an elector living in what was designated the first polling district, became the start point for choosing the remaining 39 districts. This was achieved by

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* - Devised by Survey Research Associates.

adding on the sampling interval, i.e. N/40, 39 times to the initial random number (see Appendix F for detailed listing of sampling points).

The second stage sampling units were electors on the electoral register aged 18 and over on 1st September 1982. Electors who lived in institutions or who were under the age of 18 by that date were excluded. To obtain a cluster of 40 electors in each polling district, every 10th elector on the register was added to a number randomly chosen between one and M - 450, where M was the number of electors in the polling district.

Using this method, if the polling district had a population of less than 500, the required number of electors could not be achieved. In these instances, where a polling district with a population of less than 500 was selected, it was combined with an adjacent polling district in the ward. The procedure resulted in 1600 names equally divided between the sexes (Table 6.2). In common with other surveys (Dight 1976; Knight & Wilson 1979) the probability of sampling heavy drinkers was increased by sampling twice as many men as women (i.e. every second selected woman was omitted from the sample list). Because of the logistics involved in mounting such a large-scale operation a commercial survey organisation (Survey Research Associates, London) were commissioned to sample and interview respondents using experienced interviewers.

TABLE 6.2 Sampling Pool in Each Region

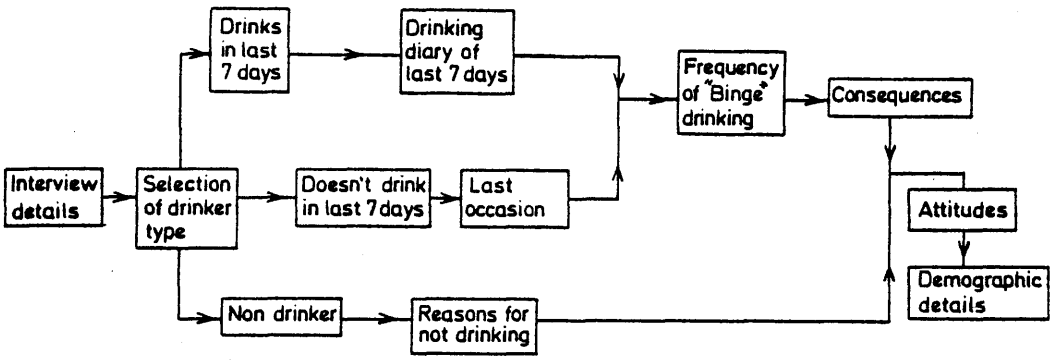
Sampling Points	Names Drawn	To be Achieved
40	800 men	500 men
	400 women	250 women
TOTAL 40	1,200	750

6.4.2 Non-Electors

To supplement the sample of electors, a further sample of non-electors was drawn, a non-elector being someone aged 18 and over who, though eligible to vote, did not appear on the current Electoral Register. Non-electors typically arose either when a member of a household had come of voting age or when the household had changed, partly or completely, since the Electoral Register was last compiled. The fact that in urban areas the Electoral Register is by order of address allowed the interviewer to ascertain directly from the Register exactly who was an elector and, therefore, who was not. But because the Register in rural areas is by name only within polling districts, the interviewer had to ask a member of the household to state who were the non-electors. (See Chapter G).

6.5 The Questionnaire

Fig.6.2: SIMPLIFIED SCHEMATIC REPRESENTATION OF INTERVIEW SCHEDULE

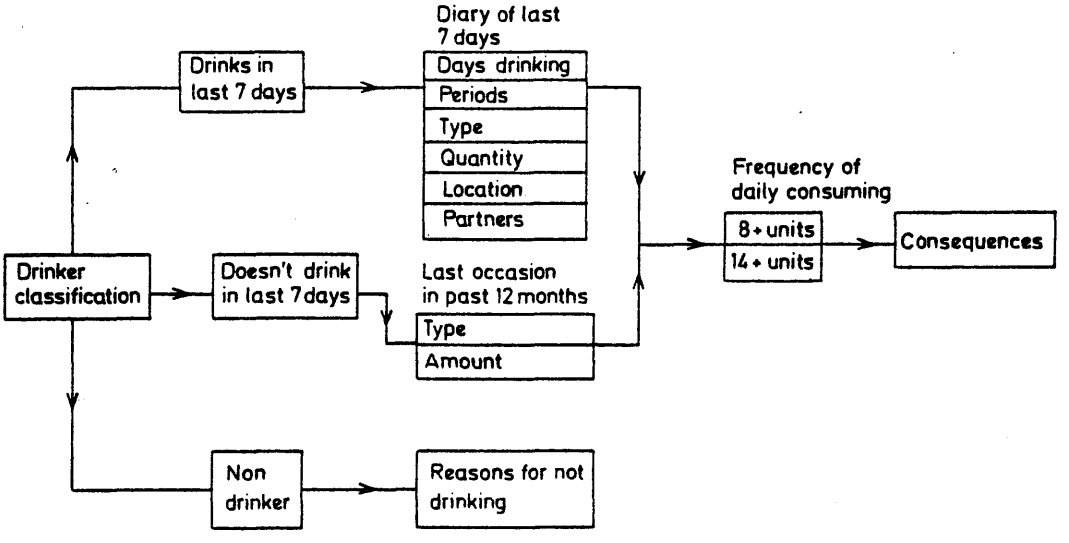


Questionnaire items were derived from, or influenced by, those employed in earlier surveys (Cahalan et al, 1969: Tolor & Tamerin 1975a; Dight 1976; O'Conner 1978; Chick & Duffy 1979; Chick 1980a,b; Wilson 1980b; Hauge & Irgens-Jensen 1981a, b; Makela 1981; Ritson et al 1981; Simpura 1981; Breeze 1982; Myers 1982; Crawford 1984a, b; Latcham 1985; Plant et al 1985a,b). These are depicted in Figures 6.2, 6.3, 6.4 and 6.5 and are briefly described below. (See also Appendix I).

6.5.1 Interview details included the name and address of respondent; date and duration of interview; calls to achieve interview etc.

6.5.2 Consumption details were taken and respondents filtered into one of three groups during the interview (Figure 6.3), (a) non-drinkers i.e. no alcoholic drinks in the past 12 months, (b) occasional drinkers i.e. drinkers who did not drink in the past week and, (c) regular drinkers i.e. drinkers who did drink in the past week.

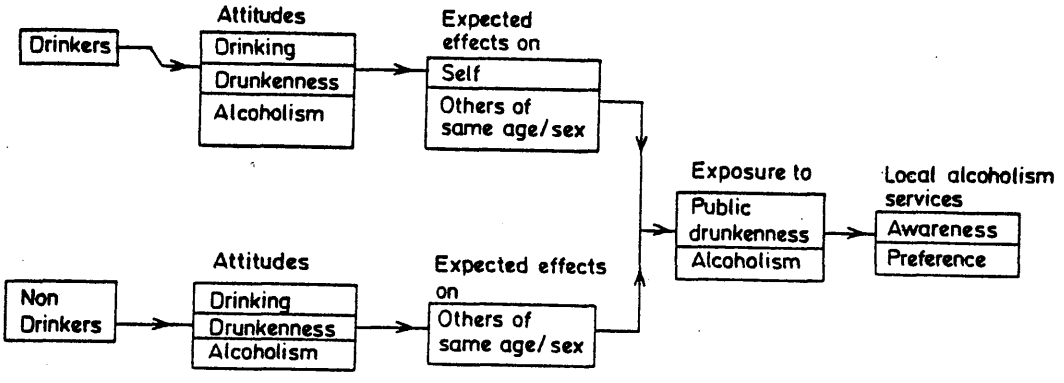
Fig.6.3:CONSUMPTION SECTION



The categories are similar to those used in Dight's (1976) survey of Scottish drinking habits. Occasional drinkers were required to describe their last drinking occasion, while regular drinkers were quizzed about every drinking occasion in the past week (see Figure 6.3 and Chapter 3.2.1). All drinkers, firstly, indicated how often they exceeded specified safe drinking limits (Royal College of Psychiatrists 1979; Wilson 1980a,b; Chick 1980a,b) and secondly, if they had experienced adverse consequences from their drinking in the past two years.

6.5.3 Attitudes and Knowledge: these items came in several forms (Figure 6.4):

Fig.6.4: ATTITUDES SECTION



(a) items measuring approval (or tolerance) of drinking or drunkenness were designed to tap a few general attitudes towards the drinker, setting, regularity and reasons for drinking rather than to tap very specific attitudes. The latter course would have necessitated extensive piloting to permit the selection of appropriate items. The items were only loosely based on those used in several earlier surveys because of the previously noted dissatisfaction with them (see Chapter 5).

(b) most of the items relating to alcohol dependence were modified (read: simplified, anglicised) from the Attitudes Towards Alcoholism Questionnaire (Tolor & Tamerin 1975a). This questionnaire is designed to tap attitudes relating to 6 views of

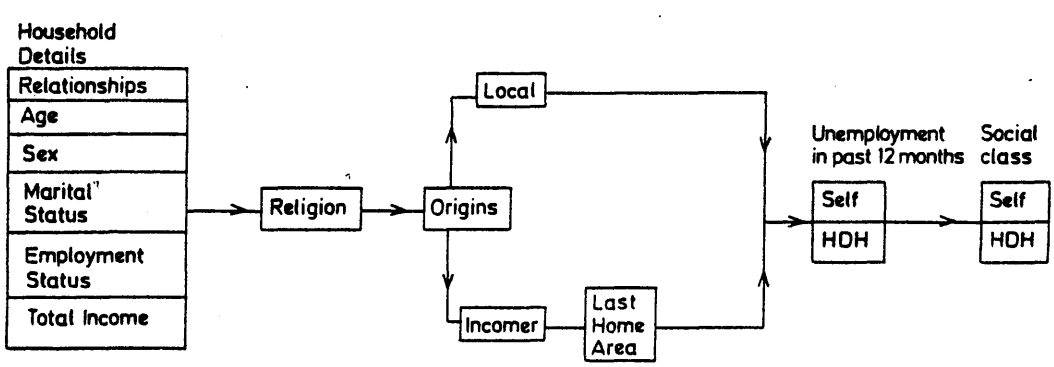
alcoholism: Psychological Etiology, Physical-Genetic Etiology, Moral Weakness, Medical Illness Model, Humanism and Social Rejection. That the questionnaire was chosen in preference to another potentially suitable candidate, the Marcus Alcoholism Questionnaire (Marcus 1963a) was due to firstly, the greater length and complexity of the MAQ, while tapping relatively similar areas, (b) doubts raised about the utility of the MAQ (Rix 1982 personal communication), and (c) the delay in receiving a copy of the MAQ.

(c) items relating to expectations (see Chapter 5.3.3) about the effects of alcohol upon self and others were derived from surveys of Glasgow University students conducted (Crawford 1984a,b).

(d) items relating to firstly direct experience of public drunkenness and of alcohol problems in the community and, secondly, to knowledge and preference of local help available for alcohol dependents.

6.5.4 Demographic details included social class of self and/or head of household; household income, residence in area, age, sex etc. (Figure 6.5).

Fig.6.5: BIOGRAPHICAL SECTION (ALL SUBJECTS)



6.6 Procedure

6.6.1 Timetable : The survey questionnaire was designed between May 10 and August 1982 (Table 6.3). An early draft was pretested on six individuals from the University Department of Psychiatry and two adults in Glasgow. The modified questionnaire was piloted on (a) ten adults randomly selected in Edinburgh (T. Myers)*, (b) five adults randomly selected in Glasgow (A. Crawford) and (c) 60 adults from the three areas during interviewer training (Survey Research Associates). The fieldwork was conducted between September 8 and October 10 1982.

TABLE 6.3 Timetable of the Study

May 10 1982	Questionnaire design started
June-July 1982	Pretesting (adults aged 18+)
	(a) Glasgow - 1 male, 1 female
	(b) Edinburgh - 5 male, 1 female
July-August 1982	Piloting (adults aged 18+)
	(a) Glasgow - 3 male, 2 female
	(b) Edinburgh - 4 male, 6 female
	(c) Highland/Tayside/Kent - 60 adults
August 1982	Questionnaire redesign completed
	3,500 copies printed

* Member of the Alcohol Research Group

26 August to)	
2 September 1982)	Final briefing of interviewers
8 September to)	
10 October 1982)	Fieldwork completed
8-30 November 1982	Questionnaires double checked
December 1982-1985	Data checked and analysed

6.6.2 Interviewer training: 55 interviewers (54 female, 1 male) were recruited by SRA, who were also responsible for supervising fieldwork training. Each interviewer was accompanied by an SRA fieldworker during at least one practice interview with a randomly selected member of public. This provided each interviewer with additional experience in, firstly, door-step interviewing and, secondly, the aims of the survey. The author participated in final group training sessions conducted in one town in each of the areas (Inverness, Dundee, Canterbury). During these sessions interviewers were reminded of the aims of the project; instructed about the mechanics of selecting both eligible names and non- electors; and taken through a mock interview designed to alert them to a number of problems likely to be encountered during interviews. (See Appendix G).

6.6.3 The interview: In each polling district the interviewer handed a letter of introduction (Appendix G) into the local police station prior to commencement of interviewing. This standard procedure pre-empted problems arising from eligible individuals, other household members, or neighbours voicing their suspicions about the interviewer to the police. On arrival at a selected address the

interviewer explained who (s)he was and that a survey of "people's drinking habits and attitudes to drink" was being conducted by SRA on behalf of Edinburgh University. Assurances were given that names were selected at random from the electoral register. Anonymity was guaranteed. (S)he showed an identity card, which contained her photograph and authorisation from SRA. A letter of introduction from SRA was also presented (Appendix G).

(S)he established that the selected person was resident at the address and the number, if any, of non-electors. In the majority of cases named electors were both resident and willing to be interviewed. Non-electors were selected by application of the Kish grid (see Appendix G). For those instances when it was difficult to contact the named person, standard commercial survey practice (Moser and Kalton 1979) was followed. That is, interviewers had to make at least four calls at different times, at least two of which had to be in the evening. Exceptions to the rule occurred when it was clear that no-one was present, e.g. derelict house.

On these occasions where other people were present during the interview, the interviewer had to tactfully ensure that they did not interfere. (S)he carefully explained that the interview had to be conducted with the named person only and that for the purposes of the survey (s)he could not record information volunteered by other people, either on behalf of themselves or of the respondent. In extreme cases interviewers were instructed to terminate the interview and to return at a later period when the interfering person was not present.

6.6.4 After the contact/interview: Interviewers filled in a "contact sheet" after each contact with a person/address (Appendix G), regardless of outcome. On each contact sheet was recorded details about name, sex, address, number of electors and non-electors, number of calls, outcome, and number of complete interviews at the address. To allow close monitoring of their progress, interviewers returned completely filled contact sheets to SRA daily.

6.6.5 Quality Control: Survey Research Associates conducted a 'first day edit' whereby all interview schedules completed on the first day were despatched (with accompanying contact sheets) to London and checked for a number of errors. Moreover, over 10% of the interviews were back-checked by area supervisors by being present during interview or, by phoning or visiting the respondent after interview. By so doing it was possible to check that the interviews occurred, and in the latter instance, that both the drinker type and demographic details were correctly coded. Each and every interview schedule was thereafter checked by a team of five editors hired and trained by the author.

The data were next punched directly into the computer by the 'key-to- disk' section of the Edinburgh Regional Computing Centre (ERCC) of Edinburgh University. Data were also validated by ERCC, that is, punched independently by two operators and computer checked for mismatch. Finally, the data were checked by the author for (a) errors of scope (e.g. that a respondent cannot have a score outwith

the permitted range of a variable) and (b) consistency errors (e.g. that abstainers cannot have consumed alcohol in the previous seven days).

6.6.6 Interviewer drinking habits: To allow for the possibility that bias may have occurred because of differences in their own drinking habits (cf. Chapter 3.4) interviewers were asked to complete and return a slip containing two questions, namely: (1) Do you drink? and (2) How often do you have a drink containing alcohol? The forms were despatched to interviewers shortly after the survey period. It was emphasised that participation was not compulsory and that anonymity was guaranteed (Appendix A).

6.7 Validity estimates

Chapter 3 discussed a number of methods of estimating the reliability and validity of population surveys of alcohol consumption. Some of these methods were applied to the present study and are discussed in detail in Appendices A and B.

CHAPTER 7

RESULTS # 1: RESPONSE RATES, SAMPLING AND SOCIODEMOGRAPHIC DETAILS

7.1 Response Rates

The following formula will be employed to compute response rates for this survey:

$$\text{Response rate} = \frac{\text{successful interviews}}{\text{eligible sample}} \times 100\%$$

where, successful interviews = (eligible sample - non responders) and, eligible sample = (names issued + non electors - ineligibles). These categories will be briefly discussed below.

7.1.1 The Successful Interview: The most rigorous definition of the successful interview requires that all of the planned questions are asked, truthfully answered and the responses clearly coded. But the fulfilment of these requirements may indicate 'success' in one sense, but not in another. It is possible in rare and extreme cases that the respondent may answer every question with a 'don't know', thereby giving no useful information. More commonplace, especially with lengthy and complex questionnaires, are those interviews in which a few questions are not asked, or if asked, are incorrectly coded. In some instances the respondent may become upset, aggressive, etc., and terminate the interview. Accordingly, it may be difficult to determine the cut-off point between a

successful and an unsuccessful interview. Application of the strict criteria would eliminate much useful information and would not necessarily enhance the final study. There is very little information (O'Conner 1978; Caetano et al 1982b; OPCS 1980, 1982; Waterton & Duffy 1984) available about the number of partial interviews in published alcohol surveys (usually 5-7% of interviews). Therefore, for the purposes of this study, a successful contact (i.e. agreement to be interviewed) will be taken as a successful interview. Partial completion will appear as missing data in later computations.

7.1.2 Non-Responders: There are three basic categories of non-response (Market Research Society, 1981), namely, 'non-contact', 'not possible' and 'refused'. 'Non-contacts' occur when eligible individuals are temporarily away from home (i.e. for less than six months). "Refusals' generally occur at the doorstep; when appointments are broken; or when questionnaires are not returned. Westerhoven (1978) subdivides refusers into those who do so as a 'matter of principle' (e.g. against surveys in general) or for 'coincidental' reasons (e.g. too busy). Interviews are 'not possible' when respondents are incapacitated; unable to understand the questions; or otherwise fail to provide successful interviews.

The assignation of non-responders into the appropriate category is often difficult. Neighbours may be unable or unwilling to provide information about the whereabouts of eligibles and, indeed, may be completely inaccurate in their information. Moreover, the demarcation line between temporary and permanent removal can be

hazy; refusals may be hidden amongst 'never-ins', 'unsuccessful interviews' or 'not possibles' (e.g. too ill). Successive call-backs to the same individual can result in a variety of reasons for non-responding.

7.1.3 The Eligible Sample: Chapter 6.4 described a typical respondent selection procedure for a general population study within the UK. i.e. the names and addresses of potential respondents were randomly selected from the then current Electoral Register. Such a procedure created the sample pool (or issued names). But the Register, an annual compilation of eligible voters, rapidly dates: it does not accurately monitor changes in either "ineligible names" or "non electors". During the gap between Register compilation and commencement of survey data gathering selected addresses are demolished, household compositions alter, individuals die or are incarcerated in institutions; these are the ineligibles. Selected addresses may contain individuals who, though eligible to vote, are not named in the Register. Such non-electors occur when households wholly or partly change, or when teenagers come of voting age. The eligible sample is obtained by removing ineligibles and introducing non-electors to the sample pool (Kish 1949; Blyth and Marchant 1973; Moser and Kalton 1979; Market Research Society 1981).

7.2. Response Rates in the Three Areas

The project design called for a minimum of 2,250 completed interviews (Chapter 6.4). This was to have been achieved by

successfully interviewing 500 males and 250 females (67:33) in each area. In the event, 2349 successful interviews (or contacts) were achieved: 2330 (99.2%) completed and 19 (0.8%) prematurely terminated: 1412 males (60.1%) and 937 females (39.9%) (Table 7.1). The overall response rate was 69%, with the lowest rate occuring in Kent ($X^2 = 6.06$, df = 2, $p<0.05$). A tendency towards poorer response rates within the South East region (within which Kent is located) has been observed in other surveys (O'Conner 1978; Townsend 1979: OPCS 1980, 1982, 1984; Market Research Society 1981). It has been suggested that increased exposure to market research, and to door-to-door salesmen posing as researchers etc may have increased consumer resistance in that region (Market Research Society 1981). But, in this survey, the refusal rate was slightly higher in Tayside than in Kent. Non-contact rates were highest in the Highlands, presumably because of the greater dispersion of people within the region.

Table 7.1: Response rates in the 3 areas

	Highland		Tayside		Kent		All	
	N	%	N	%	N	%	N	%
Electors (E)	1196		1199		1182		3577	
Non-electors (N)	85		117		81		283	
Ineligibles (I)	148		164		144		456	
Total Eligible (E + N - I)	1133	100	1152	100	1119	100	3404	100
Non Interviews	335	29.6	342	29.7	378	33.8	1055	31
non contacts [1]	203	17.9	178	15.5	171	15.3	552	16.2
refusals	89	7.9	137	11.9	124	11.1	350	10.3
not possibles [2]	25	2.2	9	0.8	48	4.3	82	2.4
other reasons	18	1.6	18	1.6	35	3.1	71	2.1
Interviews	798	70.4	810	70.3	741	66.2	2349	69
complete	794	70.1	805	69.9	731	65.3	2330	68.4
prematurely terminated	4	0.4	5	0.4	10	0.9	19	0.6

[1] never in; not available [2] senile; too ill or incapacitated; no English spoken

The majority of ineligible names arose because such individuals had moved away. The pattern of non-responding varied by area and sex of respondent (Table 7.1 and Appendix C). For example, a 2(non response category: refusals vs other) x 3(area: Highland vs Tayside vs Kent) X^2 test reveals that Highlanders were least likely to refuse ($X^2 = 13.3$; df = 2, $p<0.01$).

The most common category of refusal was 'outright refusal' followed by 'too busy' or 'not interested'. Reasons given were diverse, and frequently bizarre (see Appendix C). Non contacts generally occurred because potential respondents either declared that they were 'not available' or were 'never in'. Respondent illness/incapacitation was the major reason for 'not possible' interviews. A small number of persons who were not interviewed fell outwith the major categories. In the majority of such cases it was not possible for the interviewer to find the address. Detailed breakdown of the above categories may be found in Appendix C.

7.3 Response Rates in Other British General Population Studies

The response rate obtained in the present study is modest in comparison to many of the previous general population surveys (Edwards et al, 1972a,b,c; Dight, 1976; Plant and Miller, 1977; O'Connor, 1978; Cartwright et al, 1978a,b; Saunders and Kershaw, 1978: Plant and Pirie, 1979; Knight and Wilson, 1980; OPCS, 1980, 1982,1984,1985; Wilson, 1980b; Cummins et al, 1981; Ritson et al., 1981; Blaxter et al, 1982; Harbinson & Haire, 1982; Caetano et al, 1982,1983; Budd et al, 1983; Cooke and Allan, 1983; Kendell et al,

1983a,b; DHSS (NI) 1984; Waterton and Duffy, 1984; Yates et al, 1984; Breeze, 1985; PPRU, 1985a) which have been conducted wholly or partially in Britain (Table 7.2).*

The mean response rate for the other surveys was high 79.4 ± 8.2% range = 59.9 - 90%) and compares well with the mean rate (76%) obtained for 42 large scale surveys conducted in 1978 (Market Research Society, 1981). Inspection of Table 7.2 suggests that the major difference between surveys with high response rates and those with more modest rates lay in the number of visits allowed to establish contact with respondents. Those surveys which allowed unlimited calls all had rates above 80%. However, the converse was not necessarily true. Not all of these surveys which adopted the standard commercial practice of allowing a maximum of four call backs produced low rates. In these, the eventual response rate was probably more heavily influenced by other logistic factors, such as the geographical dispersion of the sample, and date and duration of the sampling period.

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* A variety of methods were employed by previous researchers to calculate response rates, thereby rendering comparison difficult. Therefore, rates were recalculated where necessary, and where possible, in accordance with criteria delineated by the Market Research Society (1981; see also Section 7.1).

Table 7.2: Response rates in other British general population surveys

Authors	Survey Details					Response Details			
	Successful interviews	Period	Location	Interviewers	Call Backs	Rate %	Refusals %	Non-contacts %	Not possible %
Edwards et al. (1972)	928 adults 18+	1965 (part)	London (part)	Team[A]	Unlimited	89	?	?	?
Dight (1976)	2,453 adults 17+	9-12/72	Scotland	OPCS[B]	Unlimited	87	8.9	2.4	1.7
Plant & Miller (1977)	223 males 18+	5-7/75	Edinburgh (part)	Team	?	66.8	12.4[H]	20.6	?
O'Conner (1978)	2,134 children 18-21 + parents	3-5/72 5-9/72	Dublin (part) London (part)	Team	Unlimited	83.6	12.3[H]	4.2[H]	?
Cartwright et al. (1978)	286 adults 18+	1974 (part)	London (part)	Team	Unlimited	80	?	?	?
Saunders & Kershaw (1978)	3,608 adults 18+	8/76 - 9/77	Clydebank	Team	4	82.1	8.4[H]	9.5	?
Plant & Pirie (1979)	2,056 adults 18+	3-5/76 9-10/76	Aberdeen Ayr Glasgow Inverness	NOP[C]	4	70.4	4.7[H]	24.9[H]	?
Knight & Wilson (1980)	1,656[G] 1,443[G] 1,143[G] adults 18+	10-11/76 2-3/77 10-11/78	Central Scotland	OPCS[B]	Unlimited	88.7 78.2 63.6	6.5[H] 13.8[H] 21.9[H]	4.8[H] 7.9[H] 14.5[H]	?

General Household Survey 1978 (OPCS 1980)	13,957 adults 16+	1978–12 months	Great Britain	OPCS[B]	Unlimited	82	12.8–14.5[H]	2.5–3.5[H]	?
Wilson (1980b)	1,996 adults 18+	10–11/78	England & Wales	OPCS[B]	Unlimited	85.8	8.1	4.5	1.5
Cummins et al. (1981)	7,509 males 40–59	1/78–6/80	24 British towns	Team	J	75	?	?	?
Ritson et al. (1981)	1,007 adults 17+	7–11/78 1–2/79	Lothian	System 3[D]	4	70.7	21.3	8.1[H]	?
Blaxter et al. (1982)	900 adults 18+	6–9/80	Western Isles	Team	Probably 4	90	?	?	?
General Household Survey 1980 (OPCS 1982)	13,943 adults 16+	1980–12 months	Great Britain	OPCS	Unlimited	81.8	13.5–15	2.4–3.3	?
Caetano et al. (1982, 1983)	686 adults 15–60	1975 (part)	Shetland[A] B	Team	?	78 79	22	?	?
	501[F]	1978 (part)	Shetland A B	Team	?	90 83	?	?	?
Harbison & Haire (1982)	835 adults 18+	10–12/78	Northern Ireland	Team	?	79.9	3.4	5.2	9.3
Budd et al. (1983)	497 adults 15+	June 1981	Newcastle/ Leicester	Team	- quota sample -				
Cooke & Allan (1983)	408 adults 18+	?	Glasgow	Team	6	77.3	14.9	7.8	?
Kendell et al. (1983a,b)	463[E]	9/81–3/82	Lothian	System 3	Probably 4	88.2	7.4	1.7[I]	1.0

DHSS (NI) (1984)	1,195 adults 18+	9-10/84	Northern Ireland	Team	?	82.9	5.8	11.4	?
Duffy & Waterson (1984)	323 adults 18+	10-12/82	Edinburgh	Team	5+	76.3	12.4	11	0.2
General Household Survey 1982 (OPCS 1984)	18,965 adults 18+	1982	Great Britain	OPCS[B]	Unlimited	83.7[H]	2.2-3.6[H]	11.7-13.1[H]	?
Yates et al. (1984)	415 435 adults 18+	10-12/82 & 2-3/83	Ashington Bishop Auckland	Team	3	62.0 59.9	26 32.5	5.4 3.7	6.6 3.9
Breeze (1985)	2,909 adults 18+	?	Mersey/ Northern Trent/East Anglian	OPCS[B]	Probably Unlimited	82.3	13.9	3.7	?
OPCS (1985)	1,981 adults 18+	10-11/84	Scotland	OPCS[B]		- preliminary report -			
PPRU (1985a)	6,071 adults 16+	1984	Northern Ireland	PPRU		86.0	4.0	9.0	?

A Self + team members and/or interviewers trained and directed by the team
B Office of Population, Censuses and Surveys, London
C National Opinion Poll, London
D System Three Scotland, Edinburgh
E Regular drinkers from Ritson et al. (1981) re-interviewed
F Participants in the 1975 survey reinterviewed
G Before and after design, i.e. same subjects used in each phase of survey
H Information about criteria missing, or different criteria employed
I 1.7% of Ritson et al.'s original sample missed because wrong persons interviewed
J Screened at G.P. Medical Centre

A recent review of random sample surveys conducted in several Western countries expressed disquiet about the apparent increase in respondent non-cooperation which resulted in reduced response rates (Market Research Society, 1981). Though there was no clear evidence of an overall decrease in rates with time for alcohol surveys, there were some indications of decreases in a few of the studies. Firstly, two apparently identical surveys conducted in the same area of London, but separated by nine years, show a 9% decrease (Edwards et al., 1972a,b,c; Cartwright et al., 1978a,b). Secondly, Knight and Wilson (1980) who examined the same group of people on three separate occasions over a 12 month period, obtained an effective response rate of 64% (i.e. successfully interviewed on all three occasions).

7.4 Sampling details

More than 90% of all interviews were completed in the first three weeks of the survey period (Table 7.3). On fewer than 1% of occasions were interviewer and interviewee known to each other. The most popular (or successful?) interviewing days were Wednesdays and Thursdays, and the least popular were Sundays and Tuesdays. About one half of all interviews were conducted between noon and 6pm, the rest (with the exception of Tayside) being almost equally divided between morning and evening. Between about 40 to 60% of all interviews were held, however briefly, in the presence of a third party (generally adult). The mean interview time was approximately 28 minutes.

Table 7.3: Sampling details in the 3 areas

		Highland	Tayside	Kent
Week of Interview (%)				
1 : 8 - 14 September		32.2	33.3	27.5
2 : 15 - 21 September		30.5	38.6	35.2
3 : 22 - 28 September		25.6	26.4	33.2
4 : 29 September - 5 October		9.1	1.7	3.4
5 : 6 - 10 October		2.6	0	0.7
	BASE	798	808	731
Day of Interview (%)				
Monday		11.0	12.5	15.9
Tuesday		9.4	6.8	10.0
Wednesday		19.7	18.0	23.8
Thursday		19.2	24.2	21.3
Friday		18.2	15.7	13.6
Saturday		14.3	14.1	12.3
Sunday		8.3	8.8	3.1
	BASE	798	810	741
Time Interview Started (%)				
before 12.00 hours		26.2	15.3	23.9
12.01 - 18.00 hours		55.0	52.8	50.1
after 18.01 hours		18.8	31.9	26.0
	BASE	798	810	741
Calls to achieve interview (%)				
1		42.4	37.7	39.4
2		37.5	35.2	34.8
3		13.9	17.8	17.0
4 +		6.1	9.3	8.8
	BASE	797	807	741
Was someone else present?(%)				
Most or all of the time		37.3	47.3	31.0
Some of the time		7.1	5.1	7.2
Briefly		4.9	4.2	4.5
No		50.7	43.5	57.3
	BASE	791	789	735

Who was present? * (%)

spouse		46.8	45.4	54.6
parent(s)		6.7	9.6	5.6
other adult(s)		9.6	10.2	7.6
child over 13		7.1	7.6	8.1
child under 13		17.7	17.3	13.2
friend		7.5	6.0	7.1
other		4.4	3.9	3.8
	BASE	519	617	394

Duration of interview (minutes)

Mean		28.3	27.8	29.6
S.D.		8.4	9.2	8.2
	BASE	794	808	738

Did interviewer know respondent? (%)

Yes		0.6	0.4	0.8
No		99.4	99.6	99.2
	BASE	789	799	732

* includes single/divorced/widowed/married respondents

7.5 Socio-Demographic details

Demographic data are summarised in Table 7.4. Appendix D shows that the samples did not greatly differ in comparison to the 1981 Census in respect of a number of variables. No significant regional differences in either marital or employment status* were detected for either sex; or in social class (Registrar General's scale) of either the respondent or head of household for females; or in estimated gross household income for males. There were slight but statistically significant differences in respect of several variables:

a) Respondents in Kent were older than those in Tayside.

b) The regions differed in the social class of male respondents and of their heads of household (often the same). Little can be said about these differences, other than that Highlanders were twice as likely to belong to the professional classes. Recasting the data

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* The relative sparsity of economically active females is partly the result of inadequacies in occupational classification schemes, and because many unemployed women perceive no advantages from registering themselves as unemployed; becoming housewives by default (Sinfield 1981; Martin & Roberts 1984). According to the 1981 Census economically inactive persons include students, housewives, those who are retired, and the permanently sick or disabled.

into non-manual vs manual worker categories revealed no significant differences for either the respondent ($X^2 = 1.0$, df = 2) or for household head ($X^2 = 0.9$, df = 2).

c) Women in Tayside were least likely to report an annual gross household income of less than £5,999 and most likely to estimate an income in the range £12,000 - £17,999. There is no immediately obvious reasons why this should have been so. But it should be noted that this item was subject to considerable error because neither family nor non-family members were under obligation to reveal their income to the respondent. Moreover there was a high non-response rate to the question (23.6% of all respondents). Also, the item says nothing about disposable income.

d) Respondents in Kent were less likely to have been born in the area. They also reported the least number of years of residence in their area. This is explained by the continuing high levels of prosperity and of spontaneous economic growth in the London dominated South East region (within which Kent is located) which has been responsible for considerable migration into the area for most of this century (Manners et al 1980; House 1982).

e) The majority of respondents in each area subscribed to the dominant religion of their country; respectively the Church of Scotland and the Church of England. Nevertheless, Highlanders were more likely to support the protestant religions (mainly the Free Church of Scotland), while Taysiders tended to Roman Catholicism. The item used in this survey did not, however, measure strength of

adherence (eg frequency of attendance to services; involvement in church organised activities etc).

Many of these trends may also be observed in the 1981 Census data (Appendix D).

Table 7.4: Socio-Demographic Details

	Males			Females			Level of Significance
	Highland	Tayside	Kent	Highland	Tayside	Kent	
Respondent's age (years)							
Mean	45.9	45.4*	48.5*	47.2	45.8*	50*	Males : $F(2,1404) = 3.8$, $p = .02$ (1)
S.D.	18.2	17.7	19	18.9	17.4	19	Females: $F(2,931) = 4.04$, $p = .02$ (1)
Base	477	490	438	315	317	300	
Respondent's marital status (%)							
Single	23.6	20.4	19.7	15.5	15.1	12.6	Males : $X^2 = 3.3$, df = 4, NS
Divorced/Separated/widowed	5.9	7.6	7.3	18.6	17.9	24.5	Females: $X^2 = 5.4$, df = 4, NS
Married	70.5	72	73	65.9	67	62.9	
Base	478	490	437	317	318	302	
Respondent's employment status (%)							
Full time employment	67.1	69.2	64.7	22.5	30.2	24.3	Males : $X^2 = 12.6$, df = 8, NS
Part time employment	2.3	2.2	3.2	16.8	14.5	16.3	Females: $X^2 = 12.4$, df = 8, NS
Unemployed	7.1	7.6	5.0	1.9	1.3	2.3	
Laid off/sick (temporary)	2.7	1.4	1.1	0	0.9	0	
Economically inactive (2)	20.8	19.6	25.9	58.9	53.1	57.1	
Base	477	490	436	316	318	301	
Respondent's social class (%)							
I Professional	7.4	3.9	3.3	1.6	1.4	0	Males : $X^2 = 19.3$, df = 10, $p = 0.04$
II Intermediate	23.9	25.9	20.9	23.8	28.9	19.5	Females: $X^2 = 12.7$, df = 10, NS
IIIa Skilled Non-Manual	9.1	13.0	14.9	36.5	32.4	45.5	
IIIb Skilled Manual	39.8	37.7	36.1	6.3	9.9	4.9	
IV Partly skilled	3.8	6.2	5.3	14.3	7.7	10.6	
V Unskilled	15.9	13.2	19.5	17.5	19.7	19.5	
Base	339	355	302	126	142	123	

Head of Household (HOH) social class (%)								
I	Professional	7.5	3.6	3.3	8.3	3.7	4	Males : $X^2 = 18.1$, df = 10, p = 0.05
II	Intermediate	23.9	28.2	24.1	18.4	28	24.6	Females: $X^2 = 17.7$, df = 10, NS
IIIa	Skilled Non-Manual	10.6	12.6	13.7	12.9	17.9	17.1	
IIIb	Skilled Manual	38.5	36.9	36.2	35.5	31.7	33.7	
IV	Partly skilled	2.9	6.1	5.9	8.8	3.2	6.3	
V	Unskilled	16.7	12.6	16.9	16.1	15.6	14.3	
Base		348	358	307	217	218	175	
Estimated gross annual household income (%)								
Less than £5,999		28.6	27.9	28.0	47.2	37.0	46.4	Males : $X^2 = 3.4$, df = 6, NS
£6,000-11,999		44.2	47.9	43.3	32.5	35.8	39.1	Females: $X^2 = 17.4$, df = 6, p = 0.008
£12,000-17,999		19.9	18.2	22.7	13.8	21.8	8.9	
£18,000 +		7.2	6.0	5.9	6.5	5.3	5.7	
Base		391	401	321	246	243	192	
Always lived in region (%)								
Yes		49.7	56.4	47.6	50.3	56.0	41.8	Males : $X^2 = 32.7$, df = 4, p < 0.0001
Intermittently		17.7	12.4	8.2	14.7	10.7	6.7	Females: $X^2 = 30.7$, df = 4, p < 0.0001
Newcomer		32.6	31.2	44.3	34.9	33.3	51.5	
Base		475	484	429	312	309	297	
Time lived in area (years)								
Mean		24.5*	30.2*a	22.6 a	23.8*	30.0*a	21.0 a	Males : $F(2,1395) = 19.1$, p < 0.0001 (1)
S.D.		19.3	20.6	19.0	20.4	22.2	19.4	Females: $F(2,925) = 15.3$, p < 0.0001 (1)
Base		474	487	435	313	315	298	

Place of birth (%) (3)

Highland	65.2	2.5	0	61.9	2.3	0.3	Males : $X^2 = 485.0$, df = 4, $p < 0.0001$
Tayside	1.5	66.8	0.2	1.9	62.8	0.3	Females: $X^2 = 285.1$, df = 4, $p < 0.0001$
Kent	0	0.6	51.4	0.6	0.7	45.8	
Other UK	31.2	27.3	45.0	31.1	32.6	47.8	
Elsewhere	2.2	2.7	3.4	4.5	1.6	5.8	
Base	465	476	416	312	304	295	

Religion (%)

Church of Scotland	61.8	61.3	0.5	64.3	65.3	1.0	Males : $X^2 = 839.1$, df = 10, $p < 0.0001$
Church of England	4.7	9.7	75.1	7.4	8.7	81.3	Females: $X^2 = 597.8$, df = 10, $p < 0.0001$
Other Protestant	15.4	1.2	4.4	15.4	1.6	5.3	
Roman Catholic	5.6	13.7	7.7	5.1	15.1	8.3	
Other	4.3	5.0	2.1	4.2	6.4	1.3	
None	8.3	9.1	10.3	3.5	2.9	2.7	
Base	468	483	429	311	311	300	

Notes:
1. One way ANOVA by area for each sex. Significantly different means flagged with same indicator
2. Includes students, retired persons, housewives, and the permanently ill or disabled
3. Data collapsed into 3(region) x 3(area of birth: area of residence vs other U.K. vs elsewhere) X^2.

7.6 Summary

Response rates: at 69% the overall response rate was modest in comparison to many other UK surveys. There are several possible reasons for this, e.g. the fact that interviewers were restricted to maximum of four call-backs to establish contact; the relatively wide geographical dispersion of respondents in non-metropolitan areas; and the deliberately short period covered by fieldwork. As in other surveys response rates were lowest in the south-east of England.

Sampling details: most interviews took place in the first three weeks of the sampling period. Though the interviewers and interviewees were generally strangers, about 50% of interviews were conducted in the presence of a third party.

Socio-demographic details: there were a number of slight but nevertheless statistically significant differences between the areas.

CHAPTER 8

RESULTS # 2 : REGIONAL VARIATIONS IN ALCOHOL CONSUMPTION PATTERNS, CONSEQUENCES, ATTITUDES AND KNOWLEDGE

Of the three areas surveyed Highland region has the highest and Kent the lowest rates of problem drinking. This chapter considers several alternative explanations for these differences. Data pertaining to hypotheses concerning drinking practice; experience of adverse effects from drinking alcohol, attitudes and knowledge, are presented. The data were separately analysed for each sex.

Because of the skewed distribution of alcohol consumption in the past week, all consumption data were square-root transformed for analysis (see 8.1.g and 8.2.3). As was noted in Chapter 6, three regions with different rates of problem drinking were investigated for this study. These were in descending order of magnitude of rates of problem drinking, Highland, Tayside and Kent. However, for the sake of convenience only, the various hypotheses in this chapter were presented as a comparison between the Highlands and Kent. Implicit in each hypothesis is that the drinking patterns, attitudes etc of respondents from Tayside lie somewhere between those found in the other two areas.

The chapter is split into seven sections:

1. Definitions and abbreviations
2. Drinking practices

3. Adverse consequences within the past 2 years
4. Attitudes and expectations
5. Awareness of alcohol misuse and alcohol treatment services in the community
6. Intercorrelation of drinking and attitudinal variables
7. Summary.

8.1 Definitions and Abbreviations (See Appendix G)

a) An abstainer is defined as someone who has either never consumed alcohol or who has not done so in the past year.

An occasional drinker is a drinker who has not consumed any alcohol in the previous seven days.

A regular drinker is a drinker who has consumed alcohol in the previous seven days.

b) A unit of alcohol is equivalent to one half pint (285ml) ordinary beer, lager, cider etc, or a single glass of wine or spirits. Special lagers are stronger than ordinary beers (Appendix G6). Each unit contains approximately 1.0cl/7.9g of absolute alcohol (see Figure 2.1).

c) A drinking day is defined as the 24 hour period beginning at 6am (0600 hours) and continuing on the following 'normal day' (this avoids having to record over two days those occasions which continue until after midnight).

d) A new drinking period is defined as one which occurs more than two hours after a previous period.

e) The weekend is defined as the 72 hour period beginning at 0600 hours on Friday morning and ending at 0599 hours on Monday morning.

f) Beers include ordinary beer, lager cider, and strong ales and lager. Wines include table and fortified wines. Other beverages include liqueurs and cocktails.

g) H=Highlands

T=Tayside

K=Kent

HOH=head of household

SQRTWEEK=total consumption last week (square-root)

SQRTMAX=consumption on heaviest day last week (square-root)

SQRTEND=proportion consumed over weekend (square-root)

SQRTBEER=total beer consumed last week (square-root)

SQRTWINE=total wine consumed last week (square-root)

SQRTSPIR=total spirits consumed last week (square-root)

SQRTLIQ=total 'other' beverages consumed last week (square-root)

TOTDAYS=drinking days last week

TOTPERIOD=drinking periods last week

TOTTIME=hours drinking last week

PERTIME=hours per drinking period last week

PERDAY=units per drinking day last week

PERHOUR=units per drinking hour last week

PERPER=units per drinking period last week

ATTDRINK=attitudes to drinking (composite variable)

ATTDRUNK=attitudes to drunkenness (composite variable)

EXPECT+=expectations of positive effects from alcohol (composite)

EXPECT-=expectations of negative effects from alcohol (composite)

8.2 Drinking Practices

8.2.1 Proportions of heavy drinkers

Hypotheses: Highlanders will be most, and respondents from Kent least, likely to drink and to do so regularly.

Figures 8.1 & 8.2 show the skewed nature distribution of drinking in each area. From Table 8.1 it can be seen that relatively few respondents in each area were abstainers. Even so, Highlanders of both sexes were twice as likely to abstain as those elsewhere. Tables 8.2 & 3 show that the Scots (Highlanders especially) of either sex were particularly likely to abstain for reasons relating to morals/religion, finance, upbringing or abstinence among friends. Considering those who were drinkers, Highlanders were marginally (but not significantly) less likely to be classified as "regular" (i.e. drank last week) (Table 8.1). No significant area differences were found in respect of time since last drink. Similar proportions of regular drinkers described the past week as 'typical'.

FIGURE 8.1: TOTAL ALCOHOL CONSUMED LAST WEEK (ALL MALES)

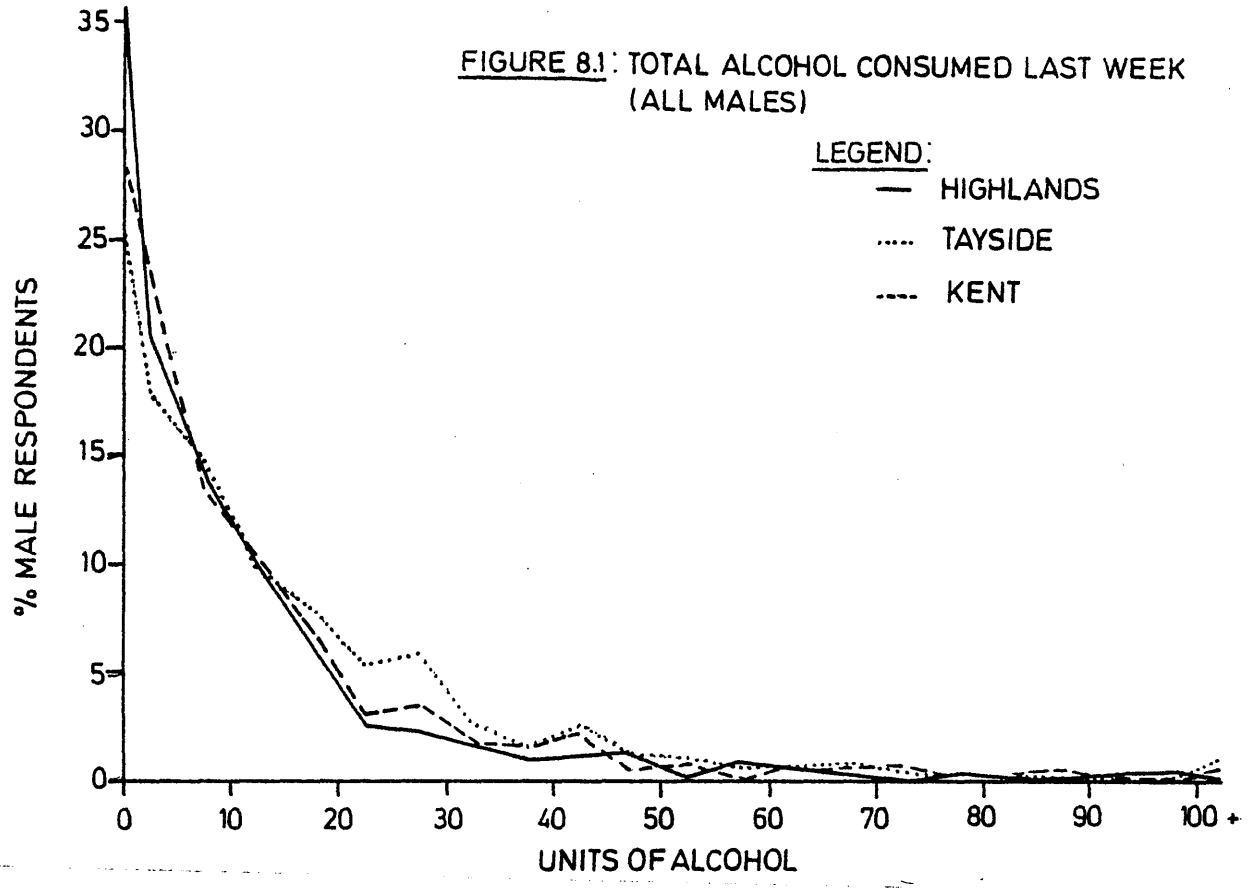

FIGURE 8.2: TOTAL ALCOHOL CONSUMED LAST WEEK (ALL FEMALES)

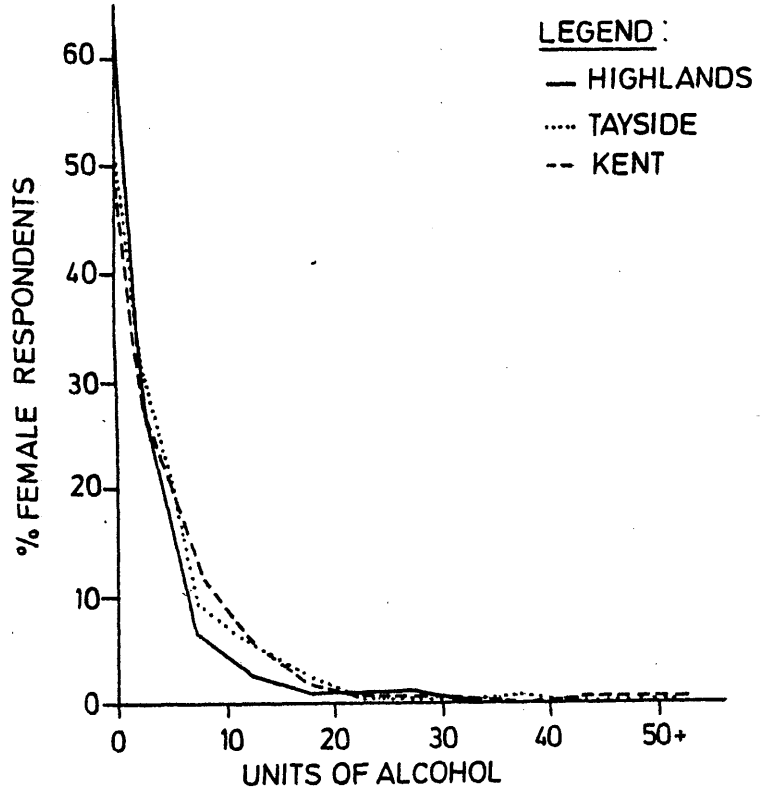

TABLE 8.1: FREQUENCY, RECENCY AND TYPICALITY OF CONSUMING ALCOHOL.

	MALES						FEMALES					
	H %	T %	K %	x^2	df	p	H %	T %	K %	x^2	df	p
Frequency of consuming alcohol in past 2 years (all respondents)												
At least once a week	59.3	70.8	66.4	21.0	6	0.002	25.9	37.1	39.7	29.3	6	0.0001
At least once a month	16.4	12.7	15.6				20.6	24.2	14.6			
Less than once a month	18.7	14.5	15.6				38.9	31.4	37.1			
Abstainer	5.6	2	2.5				14.6	7.2	8.6			
BASE	481	490	437				316	318	302			
Time since last drink (all drinkers)												
Last week (regular)	68.1	75.4	73.2	9.7	8	NS	45.4	53.7	55.1	7.7	8	NS
1-4 weeks ago	13.9	10.8	12.7				18.6	15.9	13.6			
1-6 months ago	7	5.6	7.3				19.7	15.9	18.7			
6-12 months ago	5.7	4.4	4				10.8	9.5	8.1			
12+ months ago	5.3	3.7	2.8				5.6	5.1	4.4			
BASE	454	480	425				269	296	272			
Typicality of last weeks drinking (regular drinkers)												
Last week typical	62.5	63.8	63.9	5.0	6	NS	58.2	57.1	68	7.5	6	NS
No typical week	9.9	8	7.3				13.1	8.7	6.7			
Consumed more last week	21.4	19.6	23.3				24.6	30.4	21.3			
Consumed less last week	6.2	8.6	5.4				4.1	3.7	4			
BASE	304	362	313				122	161	150			

TABLE 8.2: REASONS FOR ABSTAINING (Male abstainers)

	H		T		K			
	N	%	N	%	N	%	X^2	P
1. Health reasons	19	38.8	14	53.8	9	37.5	1.9	NS
2. Moral/religious reasons	16	33.3	10	38.5	1	4.3	8.5	0.01
3. Financial reasons	8	16.7	9	34.6	2	8.3	6.0	0.05
4. Dislike smell and/or taste of alcohol	22	45.8	10	43.5	7	29.2	1.9	NS
5. Afraid of drink taking a hold	16	32.7	3	12.0	3	12.5	5.9	0.05
6. Saw bad effect on family or others	22	44.9	13	50.0	0	0	17.5	0.0002
7. Brought up not to drink	22	45.8	6	23.1	5	20.8	6.3	0.04
8. Family/friends pressure to stop you drinking	2	4.1	3	12.0	0	0	3.9	NS
9. Got into trouble with police or authorities because of drinking	3	6.1	0	0	1	4.2	1.6	NS
10. Drink interfered with work performance	4	8.2	5	19.2	0	0	5.7	NS
11. Associates don't drink	13	27.1	4	14.8	4	16.7	1.9	NS
12. Did things due to drinking which later regretted	10	20.4	3	11.5	1	4.2	3.7	NS
13. Not interested in drinking alcohol	36	73.5	19	76.0	18	78.3	0.2	NS
14. Decided to stop because drinking too much	10	20.0	2	8.0	2	8.3	2.9	NS

For each x^2, df = 2

TABLE 8.3: REASONS FOR ABSTAINING (female abstainers)

	H		T		K			
	N	%	N	%	N	%	X^2	P
1. Health reasons	13	21.0	12	32.4	6	14.6	3.7	NS
2. Moral/religious reasons	33	53.2	8	22.9	6	14.6	19.0	0.0001
3. Financial reasons	7	11.5	7	18.9	6	15.8	1.1	NS
4. Dislike smell and/or taste of alcohol	35	58.3	21	58.3	23	56.1	0.1	NS
5. Afraid of drink taking a hold	3	4.9	3	8.1	5	12.2	1.8	NS
6. Saw bad effect on family or others	22	36.1	14	37.8	9	22.0	2.9	NS
7. Brought up not to drink	38	61.3	16	43.2	11	26.8	12.0	0.003
8. Family/friends pressure to stop you drinking	0	0	1	2.7	2	5.0	2.9	NS
9. Got into trouble with police or authorities because of drinking	0	0	0	0	0	0	-	-
10. Drink interfered with work performance	1	1.6	0	0	1	2.5	0.9	NS
11. Associates don't drink	20	32.3	5	13.5	3	7.3	10.9	0.004
12. Did things due to drinking which later regretted	0	0	0	0	1	2.5	2.5	NS
13. Not interested in drinking alcohol	53	85.5	27	75.0	32	78.0	1.8	NS
14. Decided to stop because drinking too much	1	1.6	0	0	2	5.0	2.4	NS

For each x^2, df = 2

8.2.2 Proportions exceeding safe limits

Hypothesis: Highlanders will be most, and respondents from Kent least, likely to exceed specified safe drinking limits.

This hypothesis was tested in respect to drinking over two time periods:

8.2.2.1 In the past 7 days: few area differences were recorded for the proportion of regular drinkers who exceeded various safe drinking limits for the past week (Table 8.4). Male Taysiders were most likely to not only exceed a daily safe limit of 8 units, but also recent Health Education Council (1983) weekly limits of 21 (male limit) and 14 (female limit) units. Females from Tayside were most while those from Kent were least likely to drink more than 8 units in a day. Though comprising about 2% of the total sample in each region (Highlands = 2%; Tayside = 3%; Kent = 2.8%) respondents who exceeded the weekly limit of 51 units consumed about one quarter of all alcohol consumed in each region (Highland = 22.1%; Tayside = 23.4%; Kent = 25%). These proportions are similar to those recorded in previous surveys (Dight 1976; Wilson 1980b).

8.2.2.2 Binge drinking within the past 2 years: Two thresholds for a heavy drinking day were employed: consuming more than 8 units and 14 units respectively in a day. Table 8.5 shows that at each level, area differences in the numbers of respondents exceeding each criterion were evident for males only: Taysiders were most, and those in Kent least, likely to have had one or more "heavy days".

Of the males, Taysiders were most likely to report frequently exceeding each criterion. Altogether 41.1% of male Taysiders who exceeded 8 units (i.e. 27.8% of all male drinkers in Tayside) and 35.1% of those who exceeded 14 units (14.2% of all male drinkers in Tayside) reported having done so at least 51 times in the last two years. (This is roughly equivalent to at least once a fortnight).

TABLE 8.4: WEEKLY AND DAILY SAFE LIMITS (regular drinkers)

		Limit (Units)	MALES H %	MALES T %	MALES K %	MALES X^2	MALES P	FEMALES H %	FEMALES T %	FEMALES K %	FEMALES X^2	FEMALES P
1. Weekly safe limits Royal College of Psychiatrists (1979)		< 55.5	95.1	94.8	94.5	0.1	NS	100	100	100	-	-
		56+	4.9	5.2	5.5			0	0	0		
Wilson (1980a)	male limit	< 50.5	94.8	93.4	93.5	0.7	NS	100	100	99.3	1.9	NS
		51+	5.2	6.6	6.5			0	0	0.7		
	female limit	< 35.5	89.3	86.2	87.7	1.5	NS	100	98.1	98.0	2.4	NS
		36+	10.7	13.8	12.3			0	1.9	2.0		
Health Education Council (1983)	male limit	< 21.5	79.6	68.5	75.7	11.3	0.004	95.9	95.5	99.3	0.1	NS
		22+	20.4	31.5	24.3			4.1	4.5	4.7		
	female limit	< 14.5	66.0	55.0	62.1	8.9	0.01	91.8	89.8	90.6	0.3	NS
		15+	34.0	45.0	37.9			8.2	10.2	9.4		
		BASE	309	362	309			122	157	149		
2. Daily limits (RCP 1979)		< 7.5	63.8	52.5	63.7	12.0	0.003	90.2	88.1	96.0	6.6	0.04
		8+	36.2	47.5	36.3			9.8	11.9	4.0		
		BASE	309	362	311			122	159	150		

NOTE: For each X^2: df = 2

TABLE 8.5: BINGE DRINKING IN PAST 2 YEARS (ALL DRINKERS)

		8 + UNITS IN A DAY H %	T %	K %	x^2	df	p	14 + UNITS IN A DAY H %	T %	K %	x^2	df	p
Have you exceeded criterion in a drinking day?													
MALES	Yes	65.0	68.3	53.3	22.8	2	0.0001	34.3	40.7	27.0	18.1	2	0.0001
	No	35.0	31.7	46.7				65.7	59.3	73.0			
	BASE	428	464	413				426	462	408			
FEMALES	Yes	28.2	25.9	23.5	1.5	2	NS	7.1	6.7	4.3	2.1	2	NS
	No	71.8	74.1	76.5				92.9	93.3	95.7			
	BASE	255	282	260				255	282	257			
How often have you exceeded criterion?													
MALES													
Once		3.3	5.1	7.4	27.6	8	0.0006	13.0	11.2	16.5	30.6	8	0.0002
1-10 times		41.4	31.2	43.5				40.4	36.2	48.6			
11-20 times		15.0	15.3	11.6				17.1	7.4	10.1			
21-50 times		12.8	7.3	10.6				14.4	10.1	6.4			
51 + times		27.5	41.1	26.9				15.1	35.1	18.3			
BASE		273	314	216				146	188	109			
FEMALES													
Once		16.7	7.1	15.3	12.2	8	NS	27.8	22.2	30.0	0.2	2	NS (1)
1-10 times		56.9	62.9	69.5				55.6	55.6	50.0			
11-20 times		12.5	7.1	10.2				5.6	5.6	10.0			
21-50 times		8.3	14.3	1.7				11.1	5.6	10.0			
51 + times		5.6	8.6	3.4				0	11.1	0			
BASE		72	70	59				18	18	10			

(1) frequency data collapsed (once only v 2+ occasions)

8.2.3 Consumption levels and beverage preferences

Hypothesis: the mean level of consumption will be highest in Highland region and lowest in Kent.

Because of the skewed distribution of alcohol consumption in the past week (Figures 8.1 & 8.2), all consumption data were square-root transformed. Table 8.6 shows that on average male regular drinkers consumed between about 7-9 pints of beer (or equivalent) and females between about two and a half to three and a half pints (or equivalent) in the past week. Highlanders of both sexes consumed the lowest amounts of alcohol during that period. Males from Tayside and females from Kent (whole sample) drank most alcohol. Beer type drinks were most popular among males (50%+ in each area) while females preferred wines or spirits. Respondents from Kent consumed the greatest quantities of wine and the least spirits. Highlanders drank the least beer and most spirits. Comparison of the amount consumed upon their last drinking day by regular and occasional drinkers shows that respondents from Tayside drank most, and that among males, regular drinkers consumed more than those who drank occasionally.

TABLE 8.6: CONSUMPTION LEVELS AND BEVERAGE PREFERENCES OF REGULAR DRINKERS (1)

	Sex	Highlands $\bar{X}$	Highlands S.D.	Highlands %	Tayside $\bar{X}$	Tayside S.D.	Tayside %	Kent $\bar{X}$	Kent S.D.	Kent %	F	df	p (2)
ALL DRINKS IN THE PAST WEEK													
Regular Drinkers	M	15.4*	18.1	-	19.0*	20.7	-	16.9	19.5	-	4.3	2,979	0.01
	F	5.5	6.0	-	6.6	7.5	-	7.2	8.2	-	2.7	2,427	NS
	M + F	12.6	16.3	-	15.3	18.7	-	13.7	17.2				
all respondents	M	9.9*	16.3	-	14.0*	19.7	-	11.9	18.0	-	9.3	2,1408	0.0001
	F	2.1+*	4.6	-	3.3*	6.2	-	3.6+	6.8	-	7.3	2,936	0.0007
	M + F	6.8	13.5	-	9.8	16.7	-	8.5	15.1	-			
BEVERAGES IN THE PAST WEEK													
beer/lager/cider	M	8.4*+	13.1	50	14.1*	18.7	67	12.7+	16.8	70	13.9	2,980	< 0.0001
	F	0.8*	3.1	9	1.5	5.5	10	1.8	5.2*	21	4.4	2,429	0.01
	M + F	6.2	11.8	39	10.2	16.9	50	9.1	15.0	54			
table/fortified wine	M	0.8+	2.2	9	0.7*	2.2	6	2.3*+	6.8	16	16.4	2,980	< 0.0001
	F	2.1	3.5	43	1.8*	2.9	35	3.2*	5.2	49	6.2	2,429	0.002
	M + F	1.2	2.7	19	1.0	2.5	15	2.6	6.3	27			
spirits	M	6.1*	11.1	40.1	4.2*	9.5	26.1	1.7*	4.6	12.3	39.6	2,980	< 0.0001
	F	2.5	4.1	44	3.1*	4.9	50.3	1.8*	4.7	23.5	6.4	2,429	0.002
	M + F	5.1	9.8	41.2	3.9	8.4	33.4	1.7	4.7	15.9			
liqueurs, cocktails etc.	M	0.1	1.0	0.4	0.1	0.8	0.7	0.2	1.3	1.4	1.7	2,980	NS
	F	0.1	0.4	4.2	0.3	0.9	4.2	0.3	1.5	6.2	1.5	2,429	NS
	M + F	0.1	0.8	1.5	0.1	0.8	1.8	0.2	1.3	3			
CONSUMPTION ON LAST DRINKING DAY (3)													
Regular	M	5.3	5.1	-	5.9	5.3	-	4.7	4.8	R:	7.5	2,1354	0.001
Occasional	M	3.0	3.7	-	3.6	6.6	-	2.8	4.0	T:	261.7	1,1354	< 0.001
										RT:	1.5	2,1354	NS
Regular	F	2.8	2.5	-	3.1	3.2	-	2.4	1.9	R:	6.4	2,833	0.002
Occasional	F	1.9	1.7	-	2.4	2.2	-	2.1	2.0	T:	2.6	1,833	NS
										RT:	1.6	2,833	NS

(1) All data square-root transformed for analysis

(2) One way ANOVA for each sex. For each sex, means which significantly differ (Tukey HSD, $\alpha = 0.01$) are flagged with the same indicator (*,+,o)

(3) 2 (drinker type: regular VS occasional) x 3 (region) ANOVA for each sex, when R=region affect, T=drinker type affect, RT=interaction.

8.2.4 Drinking locations and companions

Hypothesis: Highlanders will be (a) most likely to drink in bars and (b) least likely to drink with their spouses (and respondents from Kent will be least likely to drink in bars or with spouses).

From Tables 8.7 & 8.8 it can be seen that the second hypothesis only is supported. Nevertheless the various statistically significant differences depicted in the tables refer to relatively minor variations between samples. The most popular drinking locations were the respondent's own home or public bars. The most favoured comparions were the respondent's spouse/co-habitee and friends.

Table 8.7: Drinking Periods (whole or part) at particular locations (regular drinkers)

		H		T		K		Level of significance		
	Sex	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F	df	p(1)
Own home	M	1.2	2.2	0.9[a]	1.7	1.3[a]	2.3	3.4	2,970	0.03
	F	1.1[a]	1.8	0.9[b]	1.5	2.1[ab]	3.0	13.2	2,424	<0.0001
	M+F	1.1	2.1	0.9	1.6	1.6	2.6			
Friend's/relative's home	M	0.2	0.5	0.2	0.6	0.2	0.6	0.5	2,970	NS
	F	0.3	0.8	0.3	0.5	0.2	0.5	0.8	2,424	NS
	M+F	0.2	0.6	0.2	0.6	0.2	0.6			
Bar (pub/wine/hotel)	M	1.3[a]	1.9	1.5	1.8	1.7[a]	2.3	2.9	2,970	0.05
	F	0.5	0.9	0.7	1.0	0.7	1.3	1.4	2,424	NS
	M+F	1.1	1.7	1.2	1.6	1.4	2.1			
Club	M	0.4[a]	1.1	0.7[ab]	1.4	0.4[b]	0.9	9.2	2,970	0.0001
	F	0.2	0.5	0.3	0.7	0.2	0.6	0.4	2,424	NS
	M+F	0.4	1.0	0.6	1.2	0.3	0.8			
Restaurant/at a dance	M	0.1	0.3	0.1	0.2	0.1	0.4	1.0	2,970	NS
	F	0.1	0.3	0.1	0.3	0.1	0.3	0.4	2,424	N NS
	M+F	0.1	0.3	0.1	0.2	0.1	0.4			
Work place	M	0.01[a]	0.1	0.03[b]	0.4	0.1[ab]	0.8	4.5	2,970	0.01
	F	0	0	0.02	0.2	0.03	0.4	0.5	2,424	NS
	M+F	0.01	0.1	0.03	0.3	0.1	0.7			
Elsewhere	M	0.1	0.3	0.1	0.3	0.1	0.5	0.7	2,970	NS
	F	0.03[a]	0.2	0.03[b]	0.2	0.2[ab]	0.5	3.8	2,424	0.02
	M+F	0.1	0.3	0.1	0.3	0.1	0.5			

(1) One way ANOVA by area for each sex. For each sex, means which significantly differ (Tukey HSD, α = 0.01) are flagged with the same indicator (a,b).

Table 8.8: Drinking Periods (whole or part) with particular companions (regular drinkers)

		H		T		K		Level of significance		
	Sex	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F	df	p(1)
Spouse/co-habitee	M	0.9[a]	1.9	1.0[b]	1.6	1.4[ab]	2.2	4.2	2,970	0.02
	F	1.0[a]	1.4	1.2[b]	1.4	2.0[ab]	2.7	9.2	2,424	0.0001
	M+F	1.0	1.8	1.1	1.6	1.6	2.4			
Relatives	M	0.4	1.0	0.5	1.0	0.5	1.1	1.9	2,971	NS
	F	0.5	1.1	0.5	0.8	0.7	1.4	2.3	2,424	NS
	M+F	0.4	1.1	0.5	1.0	0.6	1.2			
Friends	M	1.6	1.9	1.8	1.9	1.6	2.1	1.6	2,970	NS
	F	1.0	1.5	1.0	1.1	1.0	1.4	0.1	2,424	NS
	M+F	1.5	1.8	1.6	1.7	1.4	1.9			
Workmates	M	0.3	0.8	0.1	0.5	0.3	1.0	2.9	2,970	NS
	F	0.1	0.3	0.1	0.2	0.1	0.7	1.2	2,424	NS
	M+F	0.2	0.7	0.1	0.5	0.2	0.9			
Others	M	0.04	0.3	0.04	0.3	0.08	0.7	0.9	2,970	NS
	F	0.01	0.1	0.01	0.1	0.1	0.3	1.5	2,424	NS
	M+F	0.03	0.3	0.03	0.2	0.1	0.6			
Alone	M	0.1[a]	0.6	0.2	0.8	0.3[a]	1.1	3.0	2,981	0.05
	F	0.3	1.2	0.3	1.0	0.3	0.9	<0.1	2,430	NS
	M+F	0.2	0.8	0.2	0.9	0.3	1.0			

(1) One way ANOVA by area for each sex. For each sex, means which significantly differ (Tukey HSD, α = 0.01) are flagged with the same indicator (a,b).

8.2.5 Drinking styles

Hypothesis: Highlanders exhibit the most, and respondents from Kent the least, compressed drinking style.

This hypothesis was tested on a number of variables relating to drinking over the previous 7 days. Table 8.9 shows that, broadly speaking, regular drinkers in each area reported between 2-4 drinking periods of about one and a half hours duration in the past week. These periods were confined to 2 or 3 days, mostly at the weekend. There were no statistically significant area differences in the total time spent drinking (in hours), in consumption rate per hour, or in the proportion of the week's consumption taken at the weekend. Highlanders drank on the fewest days and periods. The fastest consumption rate per period was recorded for Taysiders (of either sex). Male Taysiders also reported the fastest consumption rate per day and the greatest amount consumed on their heaviest drinking day last week. Respondents from Kent not only reported the most drinking days and periods, but also the slowest consumption rates for either measure.

TABLE 8.9: DRINKING TIMES AND CONSUMPTION RATES OF REGULAR DRINKERS

	Sex	H $\bar{x}$	H S.D.	T $\bar{x}$	T S.D.	K $\bar{x}$	K S.D.	F	df	p(1)
1. Drinking times										
Number of drinking days	M	2.7*	1.8	3.0	1.8	3.2*	2.0	5.5	2,981	0.004
	F	1.9+	1.6	2.1*	1.5	2.9*+	2.2	11.1	2,430	< 0.0001
	M + F	2.5	1.8	2.7	1.8	3.1	2.1			
Number of drinking periods	M	3.2*	2.6	3.3	2.3	3.8*	3.2	4.6	2,981	0.01
	F	2.1+	2.1	2.2*	1.6	3.4*+	3.0	13.0	2,430	< 0.0001
	M + F	2.9	2.5	3.0	2.2	3.7	3.1			
Total drinking time (hours)	M	5.2	5.9	6.5	8.1	6.0	7.3	2.5	2,975	NS
	F	3.2	3.5	3.6	4.4	4.1	3.8	1.7	2,429	NS
	M + F	4.6	5.4	5.1	8.4	5.4	6.4			
Length of drinking period (hours)	M	1.6*	1.5	1.8*+	1.7	1.6+	1.1	3.2	2,980	0.04
	F	1.6	1.2	1.8	1.5	1.4*	0.9	5.0	2,428	0.008
	M + F	1.6	1.4	1.8	1.7	1.5	1.1			
2. Consumption rates										
Units per hour	M	3.2	1.7	3.1	2.3	3.0	1.7	1.2	2,971	NS
	F	1.9	1.0	1.9	1.2	1.9	1.0	0.1	2,423	NS
	M + F	2.8	1.7	2.7	2.1	2.7	1.6			
Units per drinking day	M	5.5+	4.6	6.3*+	5.2	4.9*	3.7	8.9	2,979	0.0001
	F	2.8	2.3	3.1	2.6	2.5	2.0	2.1	2,427	NS
	M + F	4.7	4.2	5.3	4.8	4.1	3.4			
Units per drinking period	M	4.8*	3.6	5.7*+	4.4	4.4+	3.2	10.1	2,979	< 0.0001
	F	2.7	2.3	3.0*	2.6	2.4*	1.9	3.2	2,427	0.04
	M + F	4.2	3.4	4.9	4.1	3.7	3.0			
3. Consumption totals										
Maximum amount in a day	M	7.7+	7.8	8.9*+	7.8	6.9*	5.9	6.8	2,979	0.001
	F	3.3	3.0	3.9	3.6	3.2	2.7	1.8	2,429	NS
	M + F	6.5	7.0	7.4	7.2	5.7	5.4			
% consumed at weekend (2)	M	67.4	35.0	66.0	31.9	63.9	31.5	0.1	2,979	NS
	F	75.0	33.9	70.7	36.4	66.2	34.0	1.1	2,430	NS
	M + F	69.7	34.9	67.5	33.4	64.7	32.3			

(1) One way ANOVA by area for each sex. For each sex, means which significantly differ (Tukey HSD, with α=0.01) are flagged with the same indicator (*,+).

(2) Square root transformed for analysis.

8.3 Adverse consequences within the past 2 years

Hypothesis: Respondents in the Highlands will report the most and those in Kent the fewest, adverse consequences from drinking alcohol.

Drinkers indicated if they had experienced any of 10 adverse consequences within the past 2 years. They were not asked about frequency of occurrence (Table 8.10). The most commonly experienced consequences were, respectively, 'hangover' and 'amnesia lasting at least 5 minutes'. It is likely, that the former item overlaps with 'work/housework affected'. There were significant area differences on 6 items for males, and 3 items for females. Most of the significant differences achieved statistical significance by virtue of the relatively low proportion of respondents in Kent who experienced the consequence (or alternatively, the higher number of Scots, regardless of region). Respondents from Kent reported the fewest adverse consequences. Considering females, the most consequences were reported in Tayside and, considering males, Highlanders experienced the most.

TABLE 8.10: ADVERSE CONSEQUENCES EXPERIENCED WITHIN THE PAST 2 YEARS (ALL DRINKERS)

CONSEQUENCE	SEX	H N	H %	T N	T %	K N	K %	x^2	p
Hangover or been under the weather	M	219	51.4	241	52.2	166	40.1	15.5	0.0004 (1)
	F	91	35.7	97	34.4	59	22.8	12.3	0.002
Unable to remember what said/did (for a period of 5+ minutes)	M	132	31	136	29.5	85	20.6	13.5	0.001
	F	28	11	32	11.3	21	8.1	1.8	NS
work/housework affected	M	40	9.4	39	8.5	39	9.5	0.3	NS
	F	18	7.1	35	12.4	19	7.4	5.9	0.05
Felt ashamed drinking so much	M	72	16.8	55	11.9	30	7.3	18.1	0.0001
	F	23	9	29	10.3	16	6.2	3.0	NS
Had shaking hands	M	31	7.3	35	7.6	13	3.2	9.0	0.01
	F	4	1.6	5	1.8	4	1.5	0.1	NS
Drink within 3 hours of waking to help relax or cure hangover	M	46	10.8	34	7.4	18	4.4	12.6	0.002
	F	2	0.8	7	2.5	2	0.8	3.8	NS
Seriously tried to reduce or stop drinking	M	58	13.6	53	11.5	36	8.7	5.0	NS
	F	12	4.7	14	5.0	18	6.9	1.5	NS
Hobbies etc. affected	M	9	2.1	6	1.3	5	1.2	1.4	NS
	F	1	0.4	2	0.7	0	0	1.8	NS
Criticised by friends or relatives for drinking	M	87	20.3	76	16.5	46	11.1	13.4	0.001
	F	8	3.1	15	5.3	7	2.7	2.9	NS
Felt restless or irritable without a drink	M	16	3.7	16	3.5	14	3.4	0.1	NS
	F	3	1.2	5	1.8	5	1.9	0.5	NS

Total consequences		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	FX	df	p
	M	1.7*	1.9	1.5+	1.7	1.1*+	1.5	12.3	2,1279	0.001 (2)
	F	0.8	1.3	0.9*	1.4	0.6*	1.0	3.5	2,782	0.03

(1) X^2 by area for each sex with df=2

(2) One way ANOVA by area for each sex. For each sex, means which significantly differ (Tukey HSD, with α = 0.01) are flagged with the same indicator (*,+)

8.4 Attitudes and Expectations

8.4.1 Attitudes towards alcohol use and misuse

Hypothesis: Highlanders will be most, and respondent from Kent least, disapproving of various aspects of alcohol use and misuse.

This hypothesis was tested upon three sets of data:

8.4.1.1 Attitudes towards drinking: Table 8.11 depicts the degree of approval, disapproval or neither approval nor disapproval for 10 general items. Irrespective of area and sex, more than 50% of respondents disapproved of lunchtime drinking by workers, underage regular drinking, allowing 12 year olds to sample drink, solitary drinking (except males in Kent) and driving after drinking. Only one item showed no significant area differences for both sexes: underage regular drinking was equally severely disapproved by all subgroups.

In most instances Highlanders were most disapproving and/or respondents from Kent most approving (or neutral) towards alcohol use. The sole exception to this occurred in respect of alcohol being sold in supermarkets, towards which Taysiders of both sexes voiced most approval. The tendency towards greater liberality in Kent is underscored by Table 8.13 which summated the date for the 10 items (disapproval of an item = 1; neither approval nor disapproval = 2; approval = 3) to form a scale ranging between 10 (disapproving on all items) and 30 (approving on all items).

Table 8.11: Attitudes towards drinking (all respondents)

		MALES					FEMALES				
		H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
1. Working people drinking regularly at lunchtime	Disapprove	71.5	72.8	54.7			82.2	79.4	60.5		
	Neither	21.1	19.8	30.7	43.4	<0.0001	14.9	16.5	28.4	47.7	<0.0001
	Approve	7.4	7.4	14.6			2.9	4.1	11.0		
	Base	473	485	437			309	316	299		
2. People keeping a supply of alcohol at home	Disapprove	10.1	8.2	4.3			16.0	9.5	10.4		
	Neither	23.6	24.2	29.7	14.3	0.006	26.3	28.4	31.4	8.7	NS
	Approve	66.3	67.6	65.9			57.7	62.1	58.2		
	Base	475	488	437			312	317	299		
3. Underage regular drinkers	Disapprove	91.3	90.8	92.2			96.5	95.3	97.3		
	Neither	7.0	7.2	7.1	3.1	NS	2.6	3.5	2.0	1.9	NS
	Approve	1.7	2.0	0.7			1.0	1.3	0.7		
	Base	472	488	436			313	317	301		
4. Alcohol being sold in supermarkets	Disapprove	19.7	15.6	24.3			29.3	19.4	33.9		
	Neither	27.5	22.8	26.1	17.5	0.002	31.9	30.8	28.8	19.8	0.0005
	Approve	52.9	61.6	49.7			38.8	49.8	37.3		
	Base	473	487	437			307	315	295		
5. People drinking regularly at least 3 times a week	Disapprove	30.8	15.0	9.5			40.9	29.1	19.0		
	Neither	41.2	41.6	45.1	82.6	<0.0001	39.9	49.5	44.1	49.3	<0.0001
	Approve	28.0	43.4	45.4			19.2	21.4	36.9		
	Base	468	488	432			313	313	290		
6. People allowing 12 year olds to sample drink	Disapprove	84.1	84.5	71.1			87.9	86.5	77.6		
	Neither	7.4	8.0	14.3	32.7	<0.0001	6.4	6.9	10.0	15.0	0.005
	Approve	8.5	7.6	14.5			5.8	6.6	12.4		
	Base	471	489	433			313	318	299		
7. People drinking alone regularly	Disapprove	66.2	51.2	35.4			83.0	68.9	60.5		
	Neither	25.3	33.1	42.9	87.7	<0.0001	13.8	24.1	29.6	38.9	<0.0001
	Approve	8.6	15.6	21.8			3.2	7.0	9.9		
	Base	467	486	427			312	315	294		
8. People drinking regularly with meals	Disapprove	32.5	21.4	11.8			41.2	30.8	21.3		
	Neither	35.5	34.4	39.9	61.8	<0.0001	31.2	36.5	35.5	31.8	<0.0001
	Approve	32.1	44.1	48.4			27.7	32.7	43.2		
	Base	468	485	434			311	312	296		
9. Women drinking in pubs	Disapprove	32.0	22.8	12.5			40.3	27.5	23.7		
	Neither	29.1	24.5	29.3	58.7	<0.0001	22.4	23.1	22.7	24.4	0.0001
	Approve	38.9	52.7	58.2			37.4	49.4	53.5		
	Base	475	486	433			313	316	299		
10. People driving after 1-2 drinks (1-2 ½ pints, 1-2 glasses of wine/spirits)	Disapprove	77.2	72.9	59.3			89.1	85.8	75.1		
	Neither	11.4	13.4	20.5	37.3	<0.0001	6.4	7.2	10.3	26.9	<0.0001
	Approve	11.4	13.6	20.2			4.5	6.9	14.6		
	Base	473	484	435			311	318	301		

Note: For each X^2, df = 4.

8.4.1.2 Attitudes towards drunkenness: Table 8.12 shows that drunkenness is generally frowned upon. Even so, drunkenness is relatively more acceptable among certain groups (e.g. males), in particular settings (e.g. at parties or at home) or for particular reasons (e.g. celebration). Area comparisons for each sex produced a mixed pattern of results. No significant differences were found for 4 (differed for each sex) of the 8 items. For each sex, 3 out of the 4 significant differences were explained by the greater disapproval of drunkenness which was expressed by respondents from Kent (items 1,4,6 for males; items 1,2,4 for females). The remaining significant differences show that male Highlanders were most disapproving of drunkenness at home (item 5) while female Highlanders disapproved of getting drunk to alleviate unpleasant emotional states (item 7). By combining the scores from the 8 items to form a scale ranging between 8 (disapproving on all items) to 24 (approving on all items) a slight but nevertheless statistically significant tendency for Taysiders to be most, and respondents from Kent least, approving of drunkenness was found (Table 8.13).

Table 8.12: Attitudes towards drunkenness (all respondents)

		MALES					FEMALES				
		H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
1. Men occasionally getting drunk	Disapprove	36.5	27.0	43.9			45.4	43.8	59.5		
	Neither	34.8	38.0	30.9	30.0	<0.0001	31.0	32.2	26.6	20.6	0.0004
	Approve	28.7	35.0	25.2			23.6	24.0	14.0		
	Base	474	489	437			313	317	301		
2. Women occasionally getting drunk	Disapprove	63.7	57.8	64.1			74.8	67.0	74.8		
	Neither	21.4	25.8	20.4	5.7	NS	12.1	20.4	18.5	16.1	0.003
	Approve	14.9	16.4	15.6			13.1	12.6	6.6		
	Base	476	488	437			314	318	302		
3. Drunken people in the streets	Disapprove	89.3	85.2	90.6			95.5	91.2	95.7		
	Neither	8.6	12.5	8.3	8.0	NS	3.8	7.2	4.0	8.0	NS
	Approve	2.1	2.3	1.1			0.6	1.6	0.3		
	Base	476	487	436			313	318	300		
4. People getting drunk at parties	Disapprove	35.9	30.1	40.5			46.6	44.0	56.5		
	Neither	31.9	35.9	35.2	16.2	0.003	32.0	36.7	30.4	13.8	0.008
	Approve	32.3	34.0	24.4			21.4	19.3	13.0		
	Base	474	485	435			309	316	299		
5. People getting drunk at home	Disapprove	56.1	47.6	48.0			69.6	64.4	67.0		
	Neither	28.7	32.8	34.8	9.5	0.05	20.5	28.5	25.6	6.6	NS
	Approve	15.3	19.6	17.2			9.9	7.1	7.4		
	Base	471	485	431			312	312	297		
6. People planning to get drunk to celebrate	Disapprove	48.6	42.9	59.0			61.1	61.3	67.3		
	Neither	20.9	25.8	21.9	30.2	<0.0001	22.5	20.3	18.5	4.1	NS
	Approve	30.5	31.3	19.1			16.4	18.4	14.1		
	Base	469	485	434			311	315	297		
7. People getting drunk because of boredom, anxiety, etc.	Disapprove	73.8	65.2	69.1			88.7	81.3	79.7		
	Neither	20.4	28.0	25.4	8.8	NS	10.4	15.9	18.6	11.8	0.02
	Approve	5.8	6.8	5.5			1.0	2.9	1.7		
	Base	465	483	433			309	315	291		
8. People getting drunk for no particular reason	Disapprove	75.9	72.0	72.6			91.3	84.8	88.0		
	Neither	20.9	23.6	23.0	2.5	NS	7.7	13.9	11.0	6.5	NS
	Approve	3.2	4.3	4.4			1.0	1.3	1.0		
	Base	469	483	434			311	316	299		

Note: For each X^2, df = 4

Table 8.13: Combined attitudinal scores towards drinking and drunkenness (all respondents)

			H	T	K	F	df	p(1)
Attitudes to drinking (2)	Males	$\bar{X}$	17.4*	18.6*	19.6*	42.6	2,1320	< 0.0001
		s.d.	3.7	3.4	3.3			
	Females	$\bar{X}$	15.9*	17.1*	18.1*	26.9	2,865	< 0.0001
		s.d.	3.6	3.3	3.6			
Attitudes to drunkenness (3)	Males	$\bar{X}$	12.5*	13.2*a	12.2a	9.1	2,1337	0.0001
		s.d.	3.7	3.6	3.6			
	Females	$\bar{X}$	11.2	11.4*	10.7*	4.4	2,891	0.01
		s.d.	3.2	3.3	2.9			

(1) One way ANOVA by area for each sex. For each sex, means which significantly differ (Tukey HSD, with $\alpha = 0.01$) are flagged with the same indicator (*, a)

(2) Score range between 10 (disapproval on all items) to 30 (approval on all items)

(3) Score range between 8 (disapproval on all items) to 24 (approval on all items)

8.4.1.3 Attitudes towards alcoholism*: Table 8.14 presents data from a shortened (14 out of 24 original items) and modified form of the Tolor-Tamerin Attitudes Towards Alcoholism Questionnaire (Tolor & Tamerin 1975a,b). Three additional items (15-17) each referring to 'control' over drinking were also included in the questionnaire. Inspection of the Table shows that the majority of respondent regarded "alcoholics" as sick people who craved alcohol, who could not control their drinking and who were not responsible for their behaviour when drunk. It was also widely believed that "alcoholism" could be caused by stress, that "alcoholics" were similar to people with problems in dealing with everyday life, and that treatment should be voluntary. Few believed that "alcoholics" simply wished to 'live it up', lacked a good moral upbringing or had never learned to grow up. Yet "alcoholics" were also viewed as being irresponsible people who were a source of embarrassment to others. Most respondents preferred not to know "alcoholics". A substantial minority of people believed that alcoholics may learn to drink socially. As can be seen from Table 8.14 statistically significant differences by area were found for several items (2,3,7,12,15). Actual differences were, however, relatively small and generally difficult to interpret.

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* The original questions employed the term "alcoholism" rather than "alcohol dependence". For that reason, the former term will be employed for the remainder of this section.

Table 8.14: Attitudes towards alcoholism (all respondents)

		MALES					FEMALES				
		H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
1. Most alcoholics just want to live it up	Agree	24.8	27.5	25.1			28.1	22.9	26.2		
	Neither	8.9	7.7	8.4	1.3	NS	8.6	7.9	10.7	3.9	NS
	Disagree	66.2	64.8	66.6			63.4	69.2	63.1		
	Base	447	469	407			292	292	252		
2. Alcoholics lack good moral upbringing	Agree	12.7	10.7	15.3			13.8	8.9	16.4		
	Neither	7.9	8.2	13.1	14.2	0.007	7.1	6.9	8.6	8.7	NS
	Disagree	79.4	81.1	71.5			79.1	84.2	75.0		
	Base	456	475	411			297	304	268		
3. Some people react to drink and get drunk very quickly	Agree	98.3	96.0	95.1			95.7	96.4	95.5		
	Neither	0.6	2.7	2.3	9.6	0.04	2.6	3.3	2.4	4.1	NS
	Disagree	1.1	1.2	2.6			1.6	0.3	2.1		
	Base	466	481	430			305	302	289		
4. The best treatment for an alcoholic is given by a doctor	Agree	48.1	43.1	51.0			46.7	43.8	42.3		
	Neither	17.3	19.2	18.2	6.2	NS	16.7	19.9	22.5	3.0	NS
	Disagree	34.6	37.7	30.8			36.6	36.3	35.2		
	Base	416	432	390			287	292	267		

5. In most situations alcoholics cause other people great embarrassment	Agree	85.5	87.1	86.4			90.8	87.3	92.2			
	Neither	7.9	4.8	8.3	7.8	NS .	4.1	7.1	4.4	5.2		NS
	Disagree	6.6	8.1	5.3			5.1	5.5	3.4			
	Base	468	480	434			315	308	293			
6. People would prefer not to know alcoholics	Agree	63.5	67.5	63.8			64.5	64.4	66.4			
	Neither	13.0	8.3	14.3	9.0	NS	12.7	11.0	12.7	1.5		NS
	Disagree	23.5	24.2	21.8			22.8	24.6	20.8			
	Base	463	480	426			307	309	283			
7. The alcoholic has never learned to grow up	Agree	30.9	23.2	24.5			36.7	23.5	33.7			
	Neither	11.5	10.9	15.2	12.2	0.02	16.4	12.9	14.8	17.9		0.001
	Disagree	57.5	66.0	60.3			47.0	63.6	51.5			
	Base	433	470	408			281	294	264			
8. Alcoholics are similar to other people who have difficulty in dealing with everyday life	Agree	78.8	74.7	76.2			80.9	76.8	81.8			
	Neither	8.8	9.2	6.8	5.8	NS	6.0	7.7	6.6	2.9		NS
	Disagree	12.4	16.1	17.0			13.1	15.5	11.5			
	Base	453	466	424			298	297	286			
9. Treatment for alcoholics should be voluntary	Agree	68.0	68.3	71.7			66.9	66.2	76.1			
	Neither	10.4	7.7	6.8	5.1	NS	8.3	8.3	6.3	8.3		NS
	Disagree	21.6	24.0	21.5			24.8	25.5	17.6			
	Base	463	479	428			302	302	284			
10. Alcoholics are irresponsible	Agree	53.2	52.8	56.9			68.1	62.6	65.2			
	Neither	15.7	12.3	15.1	6.4	NS	10.0	9.9	10.3	2.6		NS
	Disagree	31.1	35.0	28.0			21.9	27.5	24.5			
	Base	453	472	418			301	302	282			

11. Alcoholics will usually try to get other people to fall in with their drinking habits	Agree	50.2	53.0	46.6			58.8	49.6	49.6		
	Neither	11.6	12.6	13.0	4.1	NS	11.3	15.0	12.9	6.6	NS
	Disagree	38.1	34.4	40.4			29.9	35.3	37.5		
	Base	438	445	386			274	266	232		
12. Anyone could turn to alcohol when under great stress	Agree	69.0	76.3	67.5			72.1	70.6	76.7		
	Neither	6.2	5.7	10.2	15.3	0.004	4.0	8.2	6.6	8.9	NS
	Disagree	24.8	18.0	22.3			23.9	21.2	16.7		
	Base	464	473	421			301	306	287		
13. Alcoholics are not responsible for their behaviour when drunk	Agree	66.0	69.3	73.3			79.1	75.5	81.4		
	Neither	9.0	10.3	7.6	7.5	NS	5.7	9.9	8.4	7.3	NS
	Disagree	25.0	20.4	19.0			15.2	14.6	10.2		
	Base	456	476	420			297	302	285		
14. Alcoholics are sick people	Agree	88.5	87.1	84.3			90.4	91.4	88.9		
	Neither	2.3	3.1	5.8	8.7	NS	2.2	4.5	5.1	6.4	NS
	Disagree	9.2	9.8	9.8			7.3	4.1	6.1		
	Base	469	482	428			314	314	297		
15. Alcoholics can learn to drink socially	Agree	34.6	34.7	42.0			31.3	30.4	40.4		
	Neither	8.1	6.8	11.9	17.3	0.002	6.4	9.0	9.4	10.2	0.04
	Disagree	57.3	58.5	46.1			62.3	60.6	50.2		
	Base	431	453	388			281	289	245		
16. Alcoholics have no control over their need for drink	Agree	84.3	83.3	81.4			89.4	87.0	89.5		
	Neither	6.6	6.8	6.1	3.3	NS	6.0	5.0	4.0	4.0	NS
	Disagree	9.1	9.8	12.6			4.6	8.0	6.5		
	Base	453	468	413			302	299	275		
17. Once an alcoholic takes a drink he can't control how much he how much he will consume	Agree	87.7	86.7	83.1			92.8	90.5	90.1		
	Neither	4.2	4.1	6.7	5.3	NS	3.3	5.4	4.4	2.7	NS
	Disagree	8.0	9.2	10.2			3.9	4.1	5.5		
	Base	448	467	403			305	295	273		

Note: For each X^2, df = 4

8.4.2 Expectations about the effects of alcohol

Hypothesis: Highlanders are most likely, and respondents from Kent least likely, to expect adverse effects from drinking alcohol.

Respondents were asked how likely they and others of their own age and sex would exhibit each of 6 emotional states or behaviours. From Tables 8.15 & 16 it can be seen that very few respondents anticipated unpleasant outcomes in either self or others. The finding that fewer than half of the respondents expected sexual arousal, is probably undermined by the high proportions of 'don't knows' for these items. The few area differences which emerged for the expectancy items tended to suggest that Taysiders anticipated fewer pleasant and more unpleasant effects (especially from other males) than did those from other areas. Irrespective of area or sex, greater lability was expected from other people of the same age and sex than from self.

Table 8.15: Expectations about effects of alcohol upon (a) self, (b) others of same sex and age (all male drinkers)

		Self					Others of same sex and age				
		H	T	K			H	T	K		
		%	%	%	X^2	p	%	%	%	X^2	p
Aggressive	Not likely	92.7	92.2	94.9			68.0	82.5	78.2		
	Likely	5.9	6.5	3.7	3.8	NS	26.9	14.1	17.5	25.6	<0.0001
	Very likely	1.4	1.3	1.5			5.1	3.4	4.3		
	Base	423	462	410			391	439	372		
Amorous (sexually aroused)	Not likely	61.1	59.1	64.6			44.1	48.2	48.7		
	Likely	31.1	33.3	28.7	2.9	NS	47.1	42.9	44.4	2.4	NS
	Very likely	7.8	7.7	6.7			8.8	8.9	6.9		
	Base	409	457	404			306	359	275		
Relaxed	Not likely	12.1	8.1	13.5			9.0	5.5	10.1		
	Likely	59.1	64.9	61.3	8.4	NS	70.3	77.5	70.8	9.4	0.05
	Very likely	28.7	27.0	25.2			20.8	17.0	19.1		
	Base	421	459	408			390	440	366		
Friendly and sociable	Not likely	10.5	8.3	10.4			4.4	4.3	5.7		
	Likely	59.1	60.4	57.8	1.8	NS	67.9	70.2	68.5	1.6	NS
	Very likely	30.4	31.3	31.9			27.8	25.5	25.9		
	Base	421	460	405			389	440	371		
Upset or depressed	Not likely	94.8	94.6	94.4			81.1	89.3	84.2		
	Likely	4.3	4.3	4.9	0.5	NS	17.9	9.8	14.4	12.0	0.02
	Very likely	0.9	1.1	0.7			1.1	0.9	1.4		
	Base	422	463	409			380	440	360		
Cheerful	Not likely	15.5	11.5	17.7			6.6	5.2	6.8		
	Likely	55.5	63.3	54.5	10.6	0.03	68.7	73.2	67.6	3.7	NS
	Very likely	28.9	25.2	27.8			24.7	21.5	25.7		
	Base	425	461	407			393	441	370		

Note: For each X^2, df = 4

Table 8.16: Expectations about effects of alcohol upon (a) self, (b) others of same sex and age (all female drinkers)

		Self					Others of same sex and age				
		H	T	K			H	T	K		
		%	%	%	X^2	p	%	%	%	X^2	p
Aggressive	Not likely	96.9	95.7	97.6			85.9	86.9	93.7		
	Likely	1.6	4.3	2.0	9.8	0.04	11.9	10.4	4.5	9.0	NS
	Very likely	1.6	0	0.4			2.2	2.7	1.8		
	Base	254	282	252			227	259	222		
Amorous (sexually aroused)	Not likely	79.3	72.6	73.2			59.8	64.7	65.7		
	Likely	17.5	24.6	22.0	5.5	NS	37.5	31.7	28.6	5.0	NS
	Very likely	3.3	2.8	4.8			2.7	3.6	5.7		
	Base	246	281	250			184	221	175		
Relaxed	Not likely	15.2	18.1	13.8			9.9	12.3	10.8		
	Likely	62.8	67.6	65.6	7.0	NS	70.4	73.5	73.5	3.2	NS
	Very likely	22.0	14.2	20.6			19.7	14.2	15.7		
	Base	250	281	253			223	260	223		
Friendly and sociable	Not likely	16.5	16.7	17.7			4.4	11.5	6.7		
	Likely	58.2	62.6	59.3	1.9	NS	68.3	68.2	72.0	11.6	0.02
	Very likely	25.3	20.6	23.0			27.3	20.3	21.3		
	Base	249	281	248			227	261	225		
Upset or depressed	Not likely	93.6	92.2	94.8			84.1	84.4	87.3		
	Likely	6.0	6.7	4.8	2.2	NS	14.5	12.5	11.8	4.4	NS
	Very likely	0.4	1.1	0.4			1.4	3.1	0.9		
	Base	250	282	250			220	257	220		
Cheerful	Not likely	21.1	20.1	22.7			8.4	11.7	8.9		
	Likely	56.5	61.3	57.0	2.0	NS	66.2	71.2	72.9	6.9	NS
	Very likely	22.4	18.6	20.3			25.3	17.1	18.2		
	Base	246	279	251			225	257	225		

Note: For each X^2, df = 4

8.5 Awareness of Alcohol Misuse and Alcohol Treatment Services in the Community

Hypothesis: Highlanders will have the most and respondents from Kent the least (a) experience of public drunkenness, (b) experience of alcohol dependence in others (c) knowledge of local alcohol treatment services.

These hypotheses were tested on the following data:

8.5.1 Experience of public drunkenness: Between 55% (females from Kent) and 91.4% (male Highlanders) reported that they had seen drunken people in public places. Table 8.17 shows that public drunkenness was not only more likely to be observed, but also to be observed more frequently, in Scotland (the Highlands in particular) than in Kent.

8.5.2 Personal experience of alcohol dependence: Substantial proportions of the various subsamples reported personal knowledge of an "alcoholic" (the term was not defined)*. Table 8.18 shows that Highlanders were most likely to have known an "alcoholic" and that (s)he was most likely to be a friend or colleague. Female Highlanders were also most likely to have had an 'other' relative who was an "alcoholic".

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* This term was employed in the questionnaire.

TABLE 8.17: EXPERIENCE OF PUBLIC DRUNKENNESS WITHIN THE COMMUNITY

	MALES						FEMALES					
	H %	T %	K %	x^2	df	p	H %	T %	K %	x^2	df	p
Do you ever see drunken people in public places?												
Yes	91.4	85.3	61.2				80.1	75.8	55.0			
No	8.6	14.7	38.8	142.3	2	<0.0001	19.9	24.2	45.0	53.2	2	<0.0001
BASE	476	489	436				312	318	302			
How often do you see drunken people in public places?												
Almost every day	17.0	14.9	7.8				11.2	16.2	1.8			
At least weekly	43.3	47.8	25.3				50.6	36.1	23.5			
At least once a month	26.6	21.9	27.9	98.1	6	<0.0001	21.5	21.6	20.5	87.8	6	<0.0001
Less than once a month	13.1	15.4	39.0				16.7	26.1	54.2			
BASE	436	416	269				251	241	166			

Table 8.18: Experience of alcoholism within the community

		MALES					FEMALES				
		H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
Personally known an alcoholic?	Yes	70.0	58.9	53.2			61.7	50.9	40.5		
	No	30.0	41.1	46.8	28.2	<0.0001	38.3	49.1	59.5	27.7	<0.0001
	Base	477	487	434			316	316	301		
Who was that alcoholic person?											
Spouse/co-habitee		0	0.2	0	1.9	NS	2.8	1.9	2.3	0.6	NS
Close family (parents, sibs, brothers, sisters)		6.7	3.5	5.7	5.2	NS	7.3	6.0	4.6	1.9	NS
Other relatives		8.6	7.2	5.5	3.3	NS	14.8	11.3	7.0	9.7	0.008
Neighbours		6.3	3.5	3.9	5.0	NS	10.1	6.9	3.0	12.5	0.002
Friends		25.7[a]	15.6[b]	13.4	26.9	<0.0001	17.1[d]	12.3	11.9	4.4	NS
Colleagues		13.8	15.0[b]	11.2	3.0	NS	2.2	2.8	4.3	2.4	NS
Acquaintances		26.4[a]	18.2	16.0[c]	17.2	0.0002	18.9	13.2	8.3	15.0	0.0005
Other		2.7	2.9	4.3	2.3	NS	1.9	2.2	2.7[e]	0.4	NS
	Base	479	489	439			317	318	302		

Notes: 1. For all X^2, df = 2

2. a; N = 478 / b; N = 488 /c; N = 438 / d; N = 316 /e; N = 301

8.5.3 Knowledge of, and recommendations for, local alcohol treatment services: respondents freely listed alcohol services which were available in their community (Tables 8.19 & 20). Alcoholics Anonymous, which was mentioned by about 33-50% of respondents, was clearly the most well known source of help.* The numerous statistically significant, but often minor, area differences were all in the direction of Highlanders (or Scots as a whole) being most likely to suggest a service. This may reflect a greater degree of preoccupation with, or exposure to, alcohol misuse (personally or culturally) in these areas. The findings are limited by the high proportions of 'don't knows' for this question (this being a common feature of open- ended questions).

When asked which type of help they would offer for an "alcoholic" friend or relative, most respondents again opted for A.A. (Tables 8.19 & 20). But, by being mentioned by about 50% of respondents, G.Ps emerged as a strong second option. (This figure is similar to the response to item 4 of Table 8.13 which measured agreement with the statement "The best treatment for an alcoholic is given by a doctor".) Area differences were much fewer for "preference" items, and generally followed the pattern for "knowledge" items. The sole exception occurred with female Highlanders who were found to be least likely to recommend A.A. Very few respondents were unable to recommend an agency.

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* Alcoholics Anonymous are also the most widely available service within the community .

(Scottish Council on Alcoholism 1985)

Table 8.19: Knowledge of, and recommendations for alcoholism treatment service (all male respondents)[1]

	Spontaneously mentioned					Recommended services[2]				
	H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
Their own doctor (GP)	6.7	6.1	2.5	9.5	0.009	53.9	51.5	50.6	1.1	NS
Social Work agency	1.3	1.4	0.2	3.9	NS	6.5	5.7	3.0	6.4	0.04
Council on Alcoholism	0.8	2.0	0.7	4.4	NS	5.0	6.3	4.6	1.6	NS
Alcoholics Anonymous	50.9	39.9	34.2	27.7	< 0.0001	62.4	64.8	62.2	0.9	NS
Psychiatrist	2.7	0.2	0.2	18.7	< 0.0001	4.4	4.5	4.1	0.1	NS
General Hospital	4.0	3.9	0.9	9.5	0.009	5.0	3.5	3.2	2.4	NS
Unit for treatment of alcoholism	10.0	6.5	0.9	34.3	< 0.0001	16.7	17.2	11.8	6.1	0.05
Drinkwatchers	0	0	0	-	-	0.4	0.8	0.5	0.8	NS
Salvation Army	0.4	0.8	0	3.6	NS	6.3	3.3	5.2	4.8	NS
Clergy	1.7	1.6	0	7.3	0.03	6.7	3.5	2.7	9.9	0.007
Other	6.7	13.9	8.0	16.5	0.0003			Not asked		
Don't know/none of these	36.5	47.9	59.5	48.3	< 0.0001	4.0	3.1	1.8	3.7	NS
Base	479	489	439			479	489	439		

Note: 1. For all X^2, df = 2

2. Services mentioned by interviewer

Table 8.20: Knowledge of, and recommendations for alcoholism treatment services (all female respondents)[1]

	Spontaneously mentioned					Recommended services[2]				
	H %	T %	K %	X^2	p	H %	T %	K %	X^2	p
Their own doctor (GP)	8.5	9.4	4.0	7.7	0.02	49.2	50.6	47.0	0.8	NS
Social Work agency	1.3	0.9	0.3	1.6	NS	6.0	3.8	3.3	3.1	NS
Council on Alcoholism	2.2	1.3	1.3	1.1	NS	8.2	6.6	4.3	4.0	NS
Alcoholics Anonymous	50.5	44.0	38.1	9.6	0.008	58.4	67.3	65.2	6.0	0.05
Psychiatrist	2.2	2.2	0	6.8	0.04	7.6	5.0	4.3	3.4	NS
General Hospital	2.5	3.8	1.0	5.0	NS	3.5	2.2	2.0	1.6	NS
Unit for treatment of alcoholism	9.5	7.2	3.3	9.5	0.009	22.4	17.6	18.9	2.5	NS
Drinkwatchers	0	0.3	0	1.9	NS	1.3	1.9	1.3	0.5	NS
Salvation Army	0.3	0	0	1.9	NS	4.4	4.4	8.3	5.7	NS
Clergy	1.6	0.6	0.7	1.9	NS	7.9	4.4	3.6	6.3	0.04
Other	5.0	11.9	8.3	9.8	0.007			Not asked		
Don't know/none of these	38.8	43.7	56.0	19.3	0.0001	3.5	1.9	0.3	8.1	0.02
Base	317	318	302			317	318	302		

Note: 1. For all X^2, df = 2

2. Services mentioned by interviewer

8.6 Intercorrelations of drinking and attitudinal variables

Table 8.21 lists intercorrelations between variables relating to alcohol consumption totals, times and rates: and to composite measures of attitudes towards drinking and drunkenness (see section 8.4.1 for more details). As before the consumption totals were square root transformed. The table also contains two attitudinal composite measures about the effects of alcohol. The first variable EXPECT+ sums the responses to the four positive expected outcomes (amorous, relaxed, friendly/sociable, cheerful) listed in Table 8.15. The values of this variable range between 4 ('not likely' to experience any of the 4 effects) to 12 ('very likely' to experience the effects). The second variable, EXPECT-, sums the response to 2 negative expectations (aggressive, upset/depressed) to provide values ranging between 2 and 6.

The Table shows that most of the variables significantly correlated with each other. Several of the correlations were particularly high ($r>0.7$). Somewhat unsurprisingly, total consumption in the past week correlated highly with total beer consumed, and with amount consumed on the heaviest drinking day. The measure also significantly correlated with time (in hours) spent drinking, and with consumption rate per day and per period. High correlations were also recorded between consumption rate per day and per hour and between drinking days and periods. The latter are probably explained by the large proportion of respondents who consumed one or two drinks in a single period during the past week.

Attitudinal measures at best modestly correlated with themselves and with consumption variables. The levels of correlation are comparable with those obtained in earlier attitudinal surveys which employed general attitudinal items to predict specific aspects of drinking behaviour (see Chapter 5.3.2 & 5.4).

Table 8.21: Intercorrelation between drinking habits and attitudes

	CONSUMPTION TOTALS							CONSUMPTION TIMES				CONSUMPTION RATES				ATTITUDES		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. SQRTWEEK	1.00	.88[c]	.05[a]	.80[c]	.10[c]	.41[c]	.09[c]	.66[c]	.65[c]	.74[c]	.45[c]	.75[c]	.35[c]	.71[c]	.27[c]	.31[c]	.26[c]	.16[c]
2. SQRTMAX	-	1.00	.15[c]	.72[c]	.00	.34[c]	.08[c]	.31[c]	.33[c]	.58[c]	.58[c]	.89[c]	.41[c]	.87[c]	.23[c]	.40[c]	.31[c]	.21[c]
3. SQRTEND	-	-	1.00	.04	-.01	.02	.00	-.07[b]	-.06[b]	-.01	.15[c]	.14[c]	.01	.14[c]	.03	.10[c]	.04	.02
4. SQRTBEER	-	-	-	1.00	.07[b]	-.07[b]	.02	.48[c]	.47[c]	.55[c]	.32[c]	.60[c]	.33[c]	.58[c]	.28[c]	.32[c]	.23[c]	.14[c]
5. SQRTWINE	-	-	-	-	1.00	-.03	.12[c]	.26[c]	.25[c]	.17[c]	.00	-.10[c]	-.12[c]	-.11[c]	.13[c]	-.16[c]	.04	-.08[c]
6. SQRTSPIR	-	-	-	-	-	1.00	-.01	.34[c]	.34[c]	.38[c]	.24[c]	.27[c]	.02	.23[c]	.06[a]	.08[b]	.09[c]	.06[a]
7. SQRTLIQ	-	-	-	-	-	-	1.00	.09[c]	.10[c]	.12[c]	.07[b]	.03	-.07[b]	.01	.04	-.00	.01	-.04
8. TOTDAYS	-	-	-	-	-	-	-	1.00	.92[c]	.55[c]	-.01	.09[c]	.04	.06[b]	.27[c]	.02	.06[a]	.02
9. TOTPERIOD	-	-	-	-	-	-	-	-	1.00	.54[c]	-.04	.14[c]	.05[a]	.05[a]	.24[c]	.00	.06[a]	.01
10. TOTTIME	-	-	-	-	-	-	-	-	-	1.00	.61[c]	.48[c]	-.05[a]	.45[c]	.21[c]	.21[c]	.15[c]	.10[c]
11. PERTIME	-	-	-	-	-	-	-	-	-	-	1.00	.61[c]	-.19[c]	.68[c]	.10[c]	.29[c]	.19[c]	.12[c]
12. PERDAY	-	-	-	-	-	-	-	-	-	-	-	1.00	.43[c]	.94[c]	.13[c]	.36[c]	.26[c]	.19[c]
13. PERHOUR	-	-	-	-	-	-	-	-	-	-	-	-	1.00	.43[c]	.06[a]	.20[c]	.14[c]	.11[c]
14. PERPER	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	.13[c]	.39[c]	.26[c]	.20[c]
15. ATTDRINK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	.39[c]	.18[c]	.01
16. ATTDRUNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	.29[c]	.16[c]
17. EXPECT +	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	.08[b]
18. EXPECT -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00

a = $p \leq .05$, b = $p \leq .01$, c = $p \leq .001$

8.7 Summary

This chapter separately analysed data for males and females thereby permitting the testing of hypotheses regarding area differences in respect of alcohol consumption patterns, attitudes and knowledge. In the majority of instances either no significant differences were recorded or differences were not in the predicted direction.

8.7.1 Drinking practices: The data confirmed earlier findings that relatively few Britons are abstainers (see Chapter 4.1 & Figure 4.1). The findings that male regular drinkers consumed about 15-19 units and females 5-7 units in the past week are also comparable with earlier work. Contrary to predictions, Highlanders were found to be less likely to drink, to be no more likely to exceed safe drinking levels, and to have consumed less alcohol during the past week than respondents elsewhere. Taysiders drank more alcohol and exhibited the most compressed drinking style during the past week. Scots, irrespective of region were more likely to experience adverse consequences from drinking alcohol than were respondents from Kent.

8.7.2 Attitudes towards alcohol use and misuse: Respondents from Kent tended to be slightly more liberal about drinking alcohol per se, but less approving of drunkenness than Scots. "Alcoholics" were widely regarded as sick people who craved alcohol and who were an embarrassment to others. Few respondents anticipated unpleasant effects from drinking alcohol.

8.7.3. Awareness of alcohol misuse within the community: Scots (Highlanders in particular) were especially likely to witness public drunkenness and, moreover, to know someone who had a drinking problem. They also appeared to be slightly more familiar with alcohol treatment services which were available within their communities. Alcoholics Anonymous was the best known agency.

8.7.4 Intercorrelation between drinking and attitudinal variables: most of the variables relating to drinking in the past week and to composite attitudinal measures significantly correlated with each other. Many of the correlations were relatively trivial and achieved statistical significance by virtue of the large sample sizes involved. * Total consumption in the past week was strongly and significantly correlated with time spent drinking and with consumption rates. The modest correlations which were found between attitudes and drinking behaviour were of an order typically found in alcohol survey research.

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* This can be tested by squaring the 'r' values listed in Table 8.22 to account for the percentage of variance explained each correlation. In the vast majority of instances values of less than 20% are obtained.

CHAPTER 9

RESULTS 3 : CONSUMPTION PATTERNS WITHIN SPECIFIC POPULATION SUB-GROUPS

The previous chapter demonstrated that the consumption patterns of the general populations of each area did not vary in accordance with official statistics for alcohol-related morbidity and mortality. Even so, there remained the possibility that the drinking patterns of particular population sub-groups did so vary. This possibility was investigated in the present chapter. To do this the consumption patterns of various sub-groups from each area which were defined in terms of age, marital status etc were compared.

More specifically, data from regular drinkers were compared by means of Regions X Sub-group ANOVAs. Regional differences in respect of the consumption variables were discussed in Chapter 8 and will not be repeated here. Indeed, regional main effects from forthcoming analyses were not recorded on the various Tables within this chapter.* Instead, the main focus of the analyses were upon

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* The data presented on the tables for this chapter contain F values for main effects such as age, social class etc, and for region x sub-group interactions. The former are always placed above the latter on each table. For each sex, statistically significant values are ascertained by the Tukey HSD test (with α = 0.05 or 0.01) are flagged with the same indicator (*,a,b,c,etc).

Region X Sub-group interactions for each variable. Statistically significant interactions were expected when the behaviour of particular sub-groups were altered according to area of residence. To permit comparisons with previous surveys (see Chapter 4) main effects for each sub-group were also discussed. Data were separately analysed for each sex. As before (Chapter 8) consumption data were square-root transformed.

Data are discussed in the following 10 sections:

1. Drinker type
2. Age
3. Marital status
4. Social class of head of household
5. Economic activity status
6. Gross annual household income
7. Religion
8. Attitudes and expectations
9. Predictions of consumption patterns and adverse consequences
10. Summary.

9.1 Drinker Type

9.1.1 Consumption patterns

The analyses presented in Tables 9.1 & 2 differentiated drinkers in terms of their total consumption in the previous week. The boundaries for each group were set in accordance with recently proposed limits for safe drinking by each sex (see Chapter 2.5).

Table 9.1 distinguishes between males who, in the past week (a) consumed less than the Health Education Council (1983) limit of 21 units, (b) exceeded that limit but not Wilson's (1980a,b) limit of 50 units and, (c) exceeded 50 units. The table shows, not unexpectedly, that those in the heaviest drinking group drank more alcohol, over longer periods of time, and at a faster rate than those in the other groups. They also experienced the most adverse effects. But the groups did not differ in the proportion of their total weekly consumption taken at the weekend.

There were significant region x drinking group interactions for 6 of the 11 variables. Subsequent investigation of these interactions by means of the Tukey HSD test found significant area differences between cell means at each level of consumption for 3 variables only. Amongst those in the heaviest drinking group (a) Scots consumed more on their heaviest drinking day and (b) Taysiders consumed more per drinking period and per drinking day than men from Kent. But further inspection of Table 9.1 shows that the F-value for each significant interaction was considerably smaller than for

the drinking category main effect. This suggests that each interaction was trivial relative to the drinking group main effect. Indeed inspection of cell means reveals that the effect of each interaction was simply to magnify the regional effects which were noted in the previous chapter for those in the heaviest consumption groups.

Table 9.2 presents similar analyses for female drinkers who either drank less than or more than the HEC weekly limit of 14 units (as can be seen from Table 8.4 few women exceeded Wilson's (1980a,b) limit of 35 units). Similar main effects to those for males were recorded. There was one significant interaction which showed that women from Kent, especially those who consumed more than 15 units, reported most drinking periods.

9.1.2 Adverse consequences

Table 9.3 considers the total number of types of adverse consequences experienced during the past two years by males who either exceeded a daily safe limit of 8 units or the weekly limits of 21 or 50 units. Ideally the data would have been analysed by means of a 3(region) x 2(exceed daily limit?) x 3(exceed 21 or 50 units?) ANOVA. But because there were no males who reported exceeding 50 units last week, but did not exceed the daily limit, the data had to be recast in the form of a 3(region) x 5(drinking groups listed in Table 9.3) ANOVA.

Three points are worth noting from the analysis. Firstly,

males who neither exceeded the daily limit of 8 units over the weekly limit of 21 units experienced significantly fewer consequences than did other respondents. Secondly, respondents who exceeded the daily limit experienced most consequences, irrespective of whether they exceeded the weekly limits. Thirdly, the region x drinking groups interaction did not achieve statistical significance.

Table 9.4 presents similar data for females. Because of the small Ns in several of the cells in this Table, the data were collapsed across regions to permit a 2(exceed weekly limit of 14 units: yes vs no) x 2(exceed daily limit: yes vs no) ANOVA. The Table shows that females who consumed more than the daily limit of 8 units experienced significantly more problems than those who did not. There was a similar but non significant tendency for those who exceeded the weekly limit of 14 units to report more consequences.

Table 9.1: Consumption patterns by weekly safe limits (male regular drinkers)

		H		T		K		(H+T+K)				
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts												
Weekly total[2]	0.5-21.5	8.2	5.4	8.9	5.7	8.2	5.7	8.4*	5.6			
	22-50.5	33.3	9.1	31.6	7.9	32.3	7.5	32.2*	8.1	1497.8	2,979	< 0.001
	51+	75.0	18.0	77.2	29.9	75.8	16.9	76.1*	22.9	0.6	4,979	N.S.
Heaviest day[2]	0.5-21.5	5.1	3.6	5.2	3.4	4.6	3.2	5.0*	3.4			
	22-50.5	14.5	6.0	14.4[b]	5.7	12.5	5.3	13.9*	5.7	593.7	2,979	< 0.001
	51+	28.8[a]	13.3	26.9[b]	10.1	19.1[ab]	7.5	24.8*	11.0	3.0	4,979	0.02
% consumed at weekend[2]	0.5-21.5	68.0	37.8	66.3	35.1	65.1	34.5	66.5	35.8	2.7	2,979	N.S.
	22-50.5	67.0	20.5	67.1	23.4	63.8	19.4	66.1	21.5	0.1	4,979	N.S.
	51+	58.0	21.2	59.0	25.0	49.8	13.3	55.6	20.8			
Drinking times												
Drinking days	0.5-21.5	2.2	1.5	2.4	1.6	2.6	1.7	2.4*	1.6			
	22-50.5	4.3	1.8	4.0	1.7	4.8	1.6	4.3*	1.7	191.0	2,979	< 0.001
	51+	5.6	1.5	5.2	1.9	6.4	0.8	5.7	1.5	2.2	4,979	N.S.
Drinking periods	0.5-21.5	2.4	1.9	2.6	1.9	2.8	2.2	2.6*	2.0			
	22-50.5	5.3	2.9	4.6	2.2	5.6	2.3	5.1*	2.4	217.3	2,979	< 0.001
	51+	7.8	3.1	6.4	2.8	8.8	3.3	7.6*	3.2	3.8	4,979	0.005
Drinking hours	0.5-21.5	3.2	2.5	4.0	6.8	3.4	2.4	3.5*	4.4			
	22-50.5	11.4	5.1	9.5	3.9	10.0	4.6	10.1*	4.5	441.4	2,975	< 0.001
	51+	20.1	9.5	21.9	11.2	25.1	14.4	22.5*	11.9	3.9	4,975	0.004
Hours per period	0.5-21.5	1.4	1.0	1.5	1.2	1.4	0.9	1.4*	1.0			
	22-50.5	2.6	1.7	2.4	1.2	1.9	0.9	2.3*	1.3	105.8	2,974	< 0.001
	51+	3.0	1.9	3.9	2.4	3.1	2.1	3.4*	2.2	2.9	4,974	0.02
Consumption Rates												
Units per hour	0.5-21.5	3.1	1.7	3.0	1.6	2.8	1.6	3.0*	1.6	20.9	2,973	< 0.001
	22-50.5	3.3	1.2	3.7	1.5	3.8	1.8	3.7*	1.5	1.8	4,973	N.S.
	51+	4.3	1.6	3.9	1.5	3.6	1.5	3.9*	1.5			
Units per day	0.5-21.5	4.2	3.0	4.2	3.1	3.6	2.6	4.0*	2.9			
	22-50.5	9.2	4.9	9.5[a]	4.7	7.6[a]	3.6	8.9*	4.5	355.1	2,975	< 0.001
	51+	14.7	6.5	16.6[b]	6.9	12.1[b]	2.7	14.6*	5.9	3.6	4,975	0.006
Units per period	0.5-21.5	3.8	2.5	4.0	2.8	3.4	2.5	3.8*	2.6			
	22-50.5	7.7	3.8	8.4[a]	3.9	6.6[a]	2.7	7.7*	3.6	277.1	2,975	< 0.001
	51+	11.1	5.2	13.7[b]	6.0	9.8[b]	3.9	11.7*	5.4	4.1	4,975	0.003
Total adverse consequences in the last 2 years	0.5-21.5	1.5	1.7	1.3	1.5	1.0	1.3	1.3*	1.5	67.0	2,954	< 0.001
	22-50.5	2.9	1.5	2.4	1.7	2.4	1.9	2.5*	1.7	1.6	4,954	N.S.
	51+	4.1	3.4	3.0	2.0	2.3	2.1	3.1*	2.5			

NOTES: 1. Analysed by 3(region) x 3(safe limits: 0.5-21.5, 22-50.5, 51+ units) ANOVA. Means which are significantly different (Tukey HSD with α = 0.05, 0.01) are flagged with the same indicator (*, a, b). First F value refers to Region effect, and second value to interaction.

2. Data square-root transformed for analysis.

Table 9.2: Consumption patterns by weekly safe limits (female regular drinkers)

		H		T		K		(H+T+K)				
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts												
Weekly total[2]	0.5-14.5	4.0	3.4	4.6	3.6	5.2	3.8	4.6*	3.6	450.6	1,427	< 0.001
	15+	21.9	4.7	24.3	9.9	27.0	12.3	24.6*	9.9	0.1	2,427	N.S.
Heaviest day[2]	0.5-14.5	2.8	2.1	3.2	2.3	2.8	1.8	2.9*	2.1	177.4	1,429	< 0.001
	15+	9.7	4.5	10.5	5.7	7.3	5.6	9.2*	5.5	2.7	2,429	N.S.
% consumed at weekend[2]	0.5-14.5	76.5	34.4	72.3	36.8	68.2	34.6	72.1	35.4	0.6	1,427	N.S.
	15+	63.5	26.0	59.1	27.3	52.3	17.8	57.9	23.8	0.1	2,427	N.S.
Drinking Times												
Drinking days	0.5-14.5	1.7	1.3	1.9	1.3	2.6	1.9	2.1*	1.6	122.8	1,429	< 0.001
	15+	4.5	2.4	4.2	1.4	6.1	1.6	5.0*	1.9	5.4	2,429	N.S.
Drinking periods	0.5-14.5	1.8[c]	1.4	2.0[d]	1.4	2.8[cd]	2.4	2.2*	1.9	155.7	1,429	< 0.001
	15+	5.9[b]	4.3	4.3[a]	1.4	8.7[ab]	3.5	6.3*	3.6	11.1	2,429	< 0.001
Drinking hours	0.5-14.5	2.5	2.5	2.9	2.3	3.3	2.9	2.9*	2.6	301.2	1,429	< 0.001
	15+	11.0	4.7	11.4	7.2	11.8	3.0	11.4*	5.3	0.1	2,429	N.S.
Hours per period	0.5-14.5	1.5	1.1	1.7	1.4	1.3	0.9	1.5*	1.2	19.7	1,427	< 0.001
	15+	2.7	1.7	2.9	1.9	1.6	0.8	2.4*	1.6	2.4	2,427	N.S.
Consumption rates												
Units per hour	0.5-14.5	1.8	1.0	1.8	1.1	1.9	0.9	1.9*	1.0	14.0	1,425	< 0.001
	15+	2.3	1.0	2.6	1.7	2.4	1.0	2.5*	1.3	0.4	2,425	N.S.
Units per day	0.5-14.5	2.4	1.8	2.7	2.1	2.3	1.4	2.5*	1.8	108.0	1,427	< 0.001
	15+	6.6	4.1	6.5	3.9	5.1	4.0	6.0*	3.9	1.3	2,427	N.S.
Units per period	0.5-14.5	2.4	1.8	2.6	2.1	2.1	1.4	2.4*	1.8	80.9	1,427	< 0.001
	15+	6.1	4.5	6.4	3.9	4.1	4.2	5.5*	4.2	2.9	2,427	N.S.
Total adverse consequences in the past 2 years	0.5-14.5	1.0	1.4	1.0	1.4	0.7	1.2	0.9*	1.3	14.5	1,419	< 0.001
	15+	1.8	1.1	2.0	1.6	1.4	1.4	1.8*	1.4	0.1	2,419	N.S.

Notes: 1. Analysed by 3(regions) x 2(safe limits: 0.5-14.5, 15+ units) ANOVA. Means which are significantly different (Tukey HSD with α = 0.05 or 0.01) are flagged with the same indicator (*, a, b, c, d, e). First F value refers to Region effect, second to interaction.

2. Scores square-root transformed for analysis.

TABLE 9.3: EXPERIENCE OF ADVERSE CONSEQUENCES BY MALES RESPONDENTS WHO EXCEEDED DAILY AND WEEKLY SAFE LIMITS

		H	T	K	H+T+K	Level of Significance [1]
1. Daily <8.5 units/ Weekly <21.5 units	$\bar{X}$	1.3	1.1	0.8	1.1 *o+	R: (2,956)=9.3, p<0.001
	SD	1.6	1.4	1.1	1.4	D: F(4,956)=54.4, p<0.001
	N	205	204	203	612	RD: F(8,956)=1.4, NS
2. Daily >9 units/ Weekly <21.5 units	$\bar{X}$	2.8	2.5	2.1	2.5*	
	SD	2.1	1.9	1.9	1.9	
	N	34	38	28	100	
3. Daily <8.5 units/ Weekly 22-50.5 units	$\bar{X}$	1.4	1.7	1.8	1.7*ab	
	SD	1.0	1.7	1.6	1.5	
	N	7	15	16	38	
4. Daily >9 units/ Weekly 22-50.5 units	$\bar{X}$	3.1	2.6	2.7	2.7oa	
	SD	1.4	1.7	2.0	1.7	
	N	36	74	37	147	
5. Weekly >51 units [2]	$\bar{X}$	4.1	3.0	2.3	3.1+b	
	SD	3.3	2.0	2.1	2.5	
	N	16	23	19	58	

1. 3 (region) x 5 (drinker group) ANOVA, where R=region effect, D=Drinking group effect, RD=interaction.

2. No respondent reported less than 8.5 units in a day.

TABLE 9.4 : Experience of adverse consequences by female respondents who exceeded daily and weekly safe limits

	Exceed 14 units in a week?						Level of significance			
	No		Yes		All					
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD		F^1	df	p
Exceed 8 units in a day?										
No	0.9	1.3	1.1	1.3	0.9	1.3	D:	32.3	1,419	<0.001
Yes	3.0	1.3	2.6	1.3	2.7	1.3	W:	0.3	1,419	NS
All	0.9	1.4	1.8	1.3			DW:	1.2	1,419	NS

1. 2 (daily limit) x 2(weekly limit) ANOVA, where D = daily limit effect, W = weekly limit effect, DW = interaction.

9.2 Age

Respondents were classified as belonging to one of five age groups: 18-29, 30-39, 40-49, 50-65, 66+ years of age. Table 9.5 shows that older males reported more drinking days and periods than did younger men. They also tended to drink more of their weekly total outwith the weekend period. But younger males reported longer drinking periods, the greatest quantities, the fastest consumption rates and the most adverse consequences. There were no significant region x age group interactions. Table 9.6 shows broadly (but not exactly) similar results for females.

Table 9.5: Consumption patterns by age group (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
Amounts											
Weekly total[2]											
18-29	20.5	20.9	24.8	21.4	17.4	18.0	21.0[eb]	20.4	13.5	4,975	< 0.001
30-39	18.2	21.3	21.5	21.7	20.3	20.0	20.1[ac]	21.1	1.2	8,975	N.S.
40-49	13.1	15.9	17.4	15.7	19.0	20.0	16.5[d]	17.3			
50-65	9.6	8.1	15.8	23.8	15.7	19.6	14.0[ea]	19.3			
66+	12.5	16.7	11.2	12.6	11.0	18.3	11.5[bcd]	16.2			
Heaviest day[2]											
18-29	10.8	8.7	12.5	8.8	8.0	5.6	10.5[a]	8.1	37.5	4,975	< 0.001
30-39	9.3	9.5	10.3	8.4	8.3	5.9	9.4[b]	8.2	1.6	8,975	N.S.
40-49	6.9	7.0	8.6	7.0	8.4	5.7	8.0[a]	6.6			
50-65	5.1	4.1	6.4	6.1	6.0	6.7	5.9[ab]	5.8			
66+	4.0	3.3	4.0	3.0	3.5	3.5	3.8[ab]	3.3			
% consumed at weekend[2]											
18-29	75.2	30.0	70.2	30.6	67.3	30.7	70.9	30.5	3.1	4,975	0.02 (4
30-39	64.6	36.4	65.2	32.9	66.7	29.9	65.4	33.2	1.1	2,975	N.S.
40-49	75.6	33.3	64.7	33.0	66.3	30.7	68.7	32.6			
50-65	57.9	37.0	66.7	31.6	59.7	33.6	61.9	33.9			
66+	59.3	36.8	61.1	30.9	59.2	32.4	59.8	33.1			
Drinking times											
Drinking days											
18-29	2.7	1.7	2.9	1.5	2.9	1.7	2.8[a]	1.7	2.8	4,977	0.03
30-39	2.8	1.7	3.0	1.7	3.3	2.0	3.0	1.8	0.6	8,977	N.S.
40-49	2.3	1.3	2.8	1.8	3.2	2.0	2.8[b]	1.8			
50-65	2.7	1.8	3.2	2.1	3.4	2.1	3.1	2.0			
66+	3.5	2.7	3.3	2.3	3.5	2.4	3.4[ab]	2.4			
Drinking periods											
18-29	3.0	2.2	3.3	2.1	3.1	1.9	3.1[b]	2.1	3.7	4,977	0.005
30-39	3.1	2.1	3.3	2.0	4.1	3.7	3.5	2.6	1.7	8,977	N.S.
40-49	2.5	1.6	3.2	2.6	3.6	2.7	3.1[a]	2.4			
50-65	3.0	2.1	3.4	2.4	4.2	3.8	3.5	2.9			
66+	4.9	4.9	3.7	2.9	4.1	3.5	4.2[ab]	3.8			
Drinking hours											
18-29	6.5	6.5	7.9	6.6	5.7	4.8	6.8	6.1	2.3	4,974	N.S.
30-39	6.0	7.2	6.4	5.7	6.8	6.4	6.4	6.4	1.0	8,974	N.S.
40-49	4.6	4.7	6.2	5.6	5.8	5.9	5.5	5.4			
50-65	3.8	3.0	6.7	13.2	6.3	7.6	5.8	9.5			
66+	4.6	6.0	4.2	3.8	4.9	10.8	4.2	7.8			
Hours per period											
18-29	2.1	1.6	2.5	1.6	1.8	0.9	2.1[cab]	1.4	15.4	4,973	< 0.001
30-39	1.8	1.2	1.8	1.1	1.8	1.1	1.8[c]	1.1	1.2	8,973	N.S.
40-49	1.6	1.0	2.1	1.8	1.6	1.0	1.8[a]	1.4			
50-65	1.5	1.2	1.7	1.4	1.5	0.9	1.5[b]	1.2			
66+	1.1	0.8	1.2	0.8	1.1	1.5	1.1[cab]	1.1			

Consumption rates											
Units per hour											
18-29	3.5	1.6	3.3	1.1	3.3	1.8	3.4[c]	1.5	5.6	4,970	< 0.001
30-39	3.2	1.5	3.5	1.2	3.1	1.7	3.3[a]	1.4	1.1	8,970	N.S.
40-49	3.3	1.8	3.1	1.6	3.6	1.9	3.3[b]	1.8			
50-65	2.9	2.0	3.2	2.3	2.7	1.5	3.0	2.0			
66+	2.8	1.3	2.8	1.5	2.4	1.4	2.6[cab]	1.4			
Units per day											
18-29	7.1	4.6	8.5	5.5	5.6	3.8	7.1[b]	4.8	25.4	4,972	< 0.001
30-39	6.3	5.2	7.2	5.6	5.7	3.8	6.5[a]	5.1	1.2	8,972	N.S.
40-49	5.2	4.9	6.5	5.9	5.6	3.6	5.8[b]	4.9			
50-65	4.0	3.4	4.7	3.8	4.2	3.5	4.3[ba]	3.6			
66+	3.2	2.3	3.1	2.2	2.8	2.9	3.0[ba]	2.5			
Units per period											
18-29	6.5	4.1	7.8	5.0	5.2	3.0	6.5[b]	4.3	30.5	4,972	< 0.001
30-39	5.4	3.8	6.1	3.9	5.1	3.3	5.6[a]	3.7	1.4	8,972	N.S.
40-49	4.4	2.8	5.9	5.1	5.2	3.4	5.2[b]	3.9			
50-65	3.6	2.8	4.4	3.5	3.8	3.0	4.0[ba]	3.1			
66+	2.6	1.6	2.9	2.0	2.5	2.4	2.7[ba]	2.1			
Total adverse consequences in the past 2 years											
18-29	2.8	2.0	2.7	1.7	2.1	1.5	2.5[ba]	1.8	45.2	4,954	< 0.001
30-39	2.2	2.0	1.8	1.6	1.7	1.7	1.9[a]	1.8	1.0	8,954	N.S.
40-49	1.8	2.0	1.6	1.8	1.7	1.8	1.7[b]	1.9			
50-65	1.2	1.5	1.3	1.5	0.6	1.1	1.0[ba]	1.4			
66+	0.4	0.9	0.5	1.0	0.3	0.7	0.4[ba]	0.9			

Notes: 1. Analysed by 3(regions) x 5(age groups) ANOVA.
2. Scores square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.
4. Application of the Tukey test to significant main effect failed to show differences between means.

Table 9.6: Consumption patterns by age group (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts											
Weekly total[2]											
18-29	6.4	6.1	8.5	8.8	10.0	10.6	8.2*[a]	8.5	4.0	4,425	0.003
30-39	5.6	6.9	8.6	9.6	6.2	6.2	6.8	7.8	1.1	8,425	N.S.
40-49	6.0	7.7	4.7	3.8	8.7	11.4	6.4*	8.1			
50-65	3.2	2.6	5.7	5.4	6.4	6.5	5.3*	5.5			
66+	5.8	4.7	4.4	7.3	5.2	4.7	5.1[a]	5.7			
Heaviest day[2]											
18-29	3.8	2.6	5.6	5.1	5.3	4.6	4.9*[c]	4.3	17.2	4,427	< 0.001
30-39	3.8	3.9	5.2	3.8	3.4	1.9	4.2[ab]	3.3	1.3	8,427	N.S.
40-49	3.6	3.5	2.9	1.4	3.3	2.2	3.2*	2.4			
50-65	2.2	1.6	2.9	1.9	2.5	1.6	2.6[ca]	1.7			
66+	2.6	2.6	1.8	1.6	1.8	1.0	1.9*[b]	1.6			
% consumed at weekend[2]											
18-29	78.4	33.8	68.2	38.6	71.9	31.6	72.6*	35.3	4.6	4,428	< 0.001
30-39	79.2	31.0	78.2	33.3	71.2	35.8	76.1[b]	33.3	0.8	8,428	N.S.
40-49	81.4	31.1	78.8	33.8	67.8	33.5	76.0[c]	33.1			
50-65	68.9	37.2	76.8	28.5	66.3	34.0	70.5[a]	33.1			
66+	57.1	37.0	44.8	39.9	55.0	34.4	51.8*[bca]	36.7			

Drinking times											
Drinking days											
18-29	2.0	1.5	2.1	1.5	2.7	1.8	2.2	1.6	1.4	4,428	N.S.
30-39	1.7	1.3	2.2	1.7	2.2	1.9	2.1	1.6	0.9	8,428	N.S.
40-49	2.0	1.7	1.9	1.3	2.9	1.9	2.2	1.7			
50-65	1.7	1.3	2.3	1.6	3.2	2.5	2.5	2.0			
66+	2.9	2.4	2.1	1.9	3.2	2.5	2.8	2.3			
Drinking periods											
18-29	2.3	2.5	2.2	1.5	2.9	2.0	2.4	2.0	1.4	4,428	N.S.
30-39	1.9	2.0	2.2	1.7	2.4	2.1	2.2	2.0	1.0	8,428	N.S.
40-49	2.1	2.0	1.9	1.3	3.6	3.2	2.5	2.3			
50-65	1.7	1.5	2.6	1.9	3.9	3.7	2.9	2.8			
66+	3.0	2.4	2.2	2.0	3.8	3.4	3.1	2.8			
Drinking hours											
18-29	3.8	3.4	4.7	4.2	5.5	4.1	4.6^{a}	4.0	3.4	4,427	0.009
30-39	3.7	4.8	5.2	6.4	3.5	3.3	4.1	5.0	1.2	8,427	N.S.
40-49	3.4	4.1	2.8	1.9	4.5	4.3	3.5	3.5			
50-65	1.9	1.3	3.2	2.9	3.9	3.9	3.2	3.1			
66+	3.0	2.0	2.4	2.1	3.2	3.4	2.9^{a}	2.8			
Hours per period											
18-29	1.7	0.9	2.3	1.7	2.0	1.0	2.0^{*de}	1.3	10.7	4,425	< 0.001
30-39	1.9	1.6	2.5	2.1	1.6	1.0	2.0^{abc}	1.7	0.9	8,425	N.S.
40-49	1.5	1.1	1.6	1.0	1.2	0.6	1.5^{*a}	0.9			
50-65	1.3	0.9	1.3	0.7	1.2	0.9	1.2^{db}	0.8			
66+	1.3	1.2	1.2	0.8	0.8	0.5	1.1^{ec}	0.8			
Consumption rates											
Units per hour											
18-29	1.8	0.6	2.0	0.9	2.0	1.0	1.9	0.9	0.5	4,423	N.S.
30-39	1.8	0.7	1.9	0.9	2.1	1.2	2.0	1.0	0.5	8,423	N.S.
40-49	2.0	1.4	2.1	1.7	1.9	0.9	2.0	1.4			
50-65	1.9	1.2	2.0	1.3	1.9	0.9	1.9	1.1			
66+	2.0	1.1	1.5	0.9	1.8	0.8	1.7	0.9			
Units per day											
18-29	3.0	1.8	4.2	3.8	4.0	3.3	3.8^{*cd}	3.2	11.7	4,425	< 0.001
30-39	3.1	2.5	3.9	2.3	2.9	1.6	3.3^{ab}	2.2	1.3	8,425	N.S.
40-49	3.0	3.2	2.5	1.3	2.5	1.5	2.6^{*}	2.0			
50-65	2.1	1.6	2.2	1.2	2.0	1.2	2.1^{ca}	1.3			
66+	2.5	2.6	1.6	1.1	1.4	0.5	1.7^{db}	1.4			
Units per period											
18-29	2.9	1.8	4.2	3.8	3.8	3.3	3.7^{*cd}	3.1	12.1	4,425	<0.001
30-39	3.0	2.5	3.9	2.4	2.8	1.5	3.2^{ab}	2.2	1.4	8,425	N.S.
40-49	2.9	3.2	2.5	1.3	2.1	1.2	2.5^{*}	2.0			
50-65	2.1	1.6	2.1	1.2	1.8	1.2	2.0^{ca}	1.3			
66+	2.4	2.6	1.5	1.0	1.3	0.4	1.6^{db}	1.4			
Total adverse consequences in the past 2 years											
18-29	1.7	1.6	1.8	1.6	1.6	1.7	1.7^{*ab}	1.6	18.0	4,420	< 0.001
30-39	0.8	0.9	1.8	1.8	0.9	1.2	1.2^{*b}	1.4	1.5	8,420	N.S.
40-49	1.2	1.6	0.8	0.9	1.0	1.1	1.0^{a}	1.2			
50-65	0.5	1.0	0.6	1.1	0.3	0.7	0.5^{b}	0.9			
66+	0.6	1.4	0	0	0.1	0.4	0.2^{*a}	0.7			

Notes: 1. Analysed by 3(regions) x 5(age groups) ANOVA.
2. Scores square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.3 Marital status

Table 9.7 distinguishes between male respondents who were single, married, or formerly married (separated, divorced, widowed). No significant region x marital status interactions were found for any of the variables. Nor were there any significant marital status effects in respect of the number of drinking days and periods, nor in consumption rate per hour.

The statistically significant analyses show that married men consumed less alcohol over less time and at slower rates than did the other groups. Single men consumed similar amounts of alcohol over the week to those from broken marriages. But single men drank more on their heaviest day, reported longer and heavier drinking sessions, and a greater percentage of their weekly total during the weekend than did men from broken marriages. They also experienced more adverse effects than other groups. Broadly similar, if less pronounced, results were found for women (Table 9.8).

Table 9.7: Consumption patterns by marital status (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
1. Amounts											
Weekly total[2]											
Single	21.0	20.1	24.6	27.8	17.3	17.1	21.2*	22.6	9.2	2,974	< 0.001
Married	13.5	17.0	17.0	17.1	16.2	18.9	15.6*a	17.7	0.8	4,974	N.S.
Broken	20.7	20.9	22.6	24.7	22.1	31.8	22.0 a	25.7			
Heaviest day[2]											
Single	10.7	9.0	11.2	9.3	7.6	5.3	9.9*a	8.3			
Married	6.8	7.2	8.2	7.1	6.7	6.1	7.3*	6.9	13.2	2,974	<0.001
Broken	8.3	6.9	8.8	7.7	5.9	5.7	7.8a	7.0	1.1	4,974	N.S.
% consumed at weekend[2]											
Single	76.9	28.2	67.8	31.3	68.9	30.3	71.1*a	30.2	3.9	2,974	0.02
Married	65.5	36.3	66.5	32.0	62.2	32.0	64.8*	33.5	1.1	4,974	N.S.
Broken	53.9	34.2	57.4	30.6	65.9	31.6	59.1a	31.4			
2. Drinking times											
Drinking days											
Single	2.8	1.8	3.1	1.7	3.1	1.8	3.0	1.7	0.9	2,976	N.S.
Married	2.7	1.8	3.0	1.9	3.3	2.1	3.0	1.9	0.3	4,976	N.S.
Broken	3.1	2.4	3.3	2.0	3.6	2.4	3.4	2.2			
Drinking periods											
Single	3.2	2.2	3.5	2.2	3.3	1.9	3.3	2.1	1.4	2,976	N.S.
Married	3.1	2.6	3.3	2.3	3.9	3.4	3.4	2.8	0.8	4,976	N.S.
Broken	4.3	4.8	3.9	2.9	4.0	3.4	4.0	3.5			
Drinking hours											
Single	6.8	6.2	7.4	6.8	5.9	4.7	6.8a	6.0	5.6	2,973	0.004
Married	4.8	5.7	6.1	7.8	5.6	6.2	5.5a*	6.7	1.3	4,973	N.S.
Broken	5.5	4.7	8.4	13.7	11.0	19.7	8.5*	14.3			
Hours per period											
Single	2.1	1.7	2.2	1.6	1.7	0.8	2.0*	1.4	8.3	2,972	< 0.001
Married	1.6	1.1	1.8	1.4	1.5	1.0	1.6*a	1.2	1.4	4,972	N.S.
Broken	1.4	1.0	1.8	1.8	2.2	2.6	1.8a	1.9			
3. Consumption Rates											
Units per hour											
Single	3.3	1.5	3.4	1.4	3.0	1.5	3.2	1.5	0.3	2,969	N.S.
Married	3.2	1.7	3.1	1.6	3.1	1.8	3.1	1.7	1.3	4,969	N.S.
Broken	3.3	1.2	3.5	2.0	2.3	1.1	3.1	1.6			
Units per day											
Single	7.1	4.8	7.6	5.7	5.5	4.0	6.8*	5.0	10.4	2,971	< 0.001
Married	4.9	4.3	5.9	5.0	4.6	3.5	5.2*	4.4	0.6	4,971	N.S.
Broken	6.1	5.5	6.7	6.3	4.7	4.3	6.0	5.5			
Units per period											
Single	6.4	4.4	7.0	5.2	4.9	3.1	6.2*a	4.4	13.2	2,971	< 0.001
Married	4.3	3.1	5.3	4.1	4.2	3.2	4.7*	3.6	1.0	4,971	N.S.
Broken	5.1	4.6	5.3	3.9	4.3	3.5	4.9a	3.9			
4. Total adverse consequences in the past 2 years											
Single	2.5	2.2	2.4	2.0	1.9	1.6	2.3*a	2.0	20.2	2,953	< 0.001
Married	1.7	1.8	1.5	1.5	1.2	1.5	1.4*	1.6	0.4	4,953	N.S.
Broken	1.9	2.0	1.9	1.7	0.9	2.3	1.6a	2.0			

Notes: 1. Analysed by 3(region) x 3 (marital status) ANOVA.
2. Scores square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction

Table 9.8: Consumption patterns by marital status (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
1. Amounts											
Weekly total[2]											
Single	7.4	8.0	9.3	11.4	8.6	11.5	8.5	10.4	1.8	2,427	N.S.
Married	5.0	5.6	5.8	5.0	7.1	7.3	6.0	6.1	0.4	4,427	N.S.
Broken	6.1	5.8	8.7	13.1	6.7	8.9	7.1	9.5			
Heaviest day[2]											
Single	4.5	3.3	5.7	6.1	4.5	5.3	5.0*a	5.2	5.7	2,429	0.004
Married	3.2	3.0	3.6	2.6	3.1	2.0	3.3*	2.6	0.3	4,429	N.S.
Broken	3.2	2.2	3.8	4.6	2.6	2.3	3.1 a	3.1			
% consumed at weekend[2]											
Single	72.7	37.3	72.6	38.3	68.1	39.0	71.1	37.7	5.7	2,430	0.004
Married	80.4	30.1	73.7	33.9	65.8	32.9	73.0*	32.9	1.8	4,430	N.S.
Broken	52.4	40.8	49.0	44.2	66.5	35.6	57.7*	39.8			
2. Drinking times											
Drinking days											
Single	2.1	1.9	2.2	1.7	2.6	2.1	2.3	1.9			
Married	1.8	1.5	2.1	1.4	2.9	2.2	2.3	1.8	0.1	2,430	N.S.
Broken	2.3	1.9	2.2	2.1	2.9	2.2	2.5	2.1	0.4	4,430	N.S.
Drinking periods											
Single	2.5	2.9	2.4	1.8	2.8	2.4	2.6	2.3			
Married	1.9	1.6	2.2	1.6	3.5	3.2	2.6	2.3	0.3	2,430	N.S.
Broken	2.7	3.3	2.3	2.1	3.1	2.7	2.8	2.7	1.0	4,430	N.S.
Drinking hours											
Single	4.3	5.2	4.9	5.1	4.5	3.8	4.6	4.7	2.2	2,429	N.S.
Married	3.0	3.2	3.4	2.8	4.0	3.7	3.5	3.3	0.3	4,429	N.S.
Broken	3.6	3.5	4.4	7.7	4.1	4.5	4.0	5.3			
Hours per period											
Single	1.8	1.3	2.3	1.5	1.7	1.3	2.0*	1.4			
Married	1.6	1.1	1.7	1.3	1.3	0.9	1.5*	1.1	3.0	2,427	0.05
Broken	1.6	1.4	2.0	2.2	1.3	0.9	1.6	1.5	0.2	4,427	N.S.
Consumption rates											
Units per hour											
Single	2.0	0.8	1.9	1.0	1.9	1.0	1.9	1.0	0.1	2,425	N.S.
Married	1.8	1.0	1.9	1.3	2.0	1.0	1.9	1.1	0.5	4,425	N.S.
Broken	2.0	1.1	1.8	1.0	1.7	0.8	1.8	0.9			
Units per day											
Single	3.5	2.5	4.3	4.3	3.4	3.8	3.8*a	3.7	6.4	2,427	0.002
Married	2.7	2.4	2.8	1.7	2.5	1.5	2.6*	1.9	0.7	4,427	N.S.
Broken	2.7	1.7	3.5	4.0	2.1	1.6	2.7a	2.5			
Units per period											
Single	3.4	2.5	4.2	4.3	3.4	3.8	3.7*a	3.7	6.3	2,427	0.002
Married	2.6	2.4	2.7	1.7	2.2	1.4	2.5*	1.8	0.5	4,427	N.S.
Broken	2.6	1.7	3.5	4.1	2.0	1.6	2.6a	2.6			
Total adverse consequences in the past 2 years											
Single	1.2	1.0	1.6	1.7	0.9	1.4	1.3	1.4	2.5	2,422	N.S.
Married	1.1	1.5	1.1	1.4	0.8	1.2	1.0	1.4	0.4	4,422	N.S.
Broken	0.9	1.1	0.8	1.4	0.5	1.1	0.7	1.2			

Notes: 1. Analysed by 3(region) x 3(marital status) ANOVA
2. Scores square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.4 Social class of head of household

Heads of households (HOHs) were classified from the Registrar General's Classification Scale as being non-manual (classes I, II, IIIa) or manual (IIIb, IV, V) workers. Table 9.9 shows that males from non-manual households reported more drinking days and periods than did those from manual households. They also consumed a smaller proportion of their weekly total of alcohol during the weekend. But those from manual households reported longer drinking periods, the greatest weekly total, the heaviest drinking day, the fastest rates of consumption, and the most adverse consequences. The few significant region X class interactions revealed that among those with manual HOHs, Taysiders (a) consumed more per week, and spent more hours doing so than respondents elsewhere, and (b) reported longer drinking periods and a higher consumption rate per drinking day than males from Kent.

There were few statistically significant differences between women (Table 9.10). Non-manual women reported the greatest number of drinking days and periods. There were no significant interactions.

Table 9.9: Consumption patterns by HOH social class (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts											
Weekly total[2]											
Non-manual	14.0	16.7	14.4	13.6	17.4	18.7	15.2*	16.3	8.1	1,763	0.005
Manual	16.5[a]	18.7	22.9[ab]	22.9	17.4[b]	19.5	19.1*	20.7	3.9	2,763	0.02
Heaviest day[2]											
Non-manual	7.1	7.5	6.7	5.6	6.5	4.5	6.8*	6.0	26.7	1,763	<0.001
Manual	8.9	7.8	10.7	8.6	8.1	6.6	9.3*	7.8	2.2	2,763	N.S.
% consumed at weekends[2]											
Non-manual	64.5	36.0	65.0	29.7	57.2	29.9	62.5*	32.1	5.2	1,763	0.02
Manual	73.7	33.6	67.8	33.2	70.1	32.2	70.4*	33.0	1.7	2,763	N.S.
Drinking times											
Drinking days											
Non-manual	2.8	1.7	3.2	1.8	3.6	2.0	3.2*	1.9	11.7	1,765	0.001
Manual	2.4	1.7	2.9	1.8	2.8	1.8	2.7*	1.8	1.5	2,765	N.S.
Drinking periods											
Non-manual	3.0	2.0	3.5	2.5	4.2	3.3	3.5*	2.6	4.8	1,765	0.03
Manual	2.8	2.3	3.3	2.2	3.4	3.0	3.2*	2.5	1.1	2,765	N.S.
Drinking hours											
Non-manual	5.2	5.7	5.2	4.6	6.5	6.7	5.6	5.7	1.7	1,757	N.S.
Manual	5.3[a]	5.7	7.3[a,b]	6.6	5.6[b]	5.7	6.4	7.6	4.4	2,757	0.02
Hours per period											
Non-manual	1.6	1.1	1.5	1.0	1.6	1.0	1.6*	1.0	14.0	1,761	<0.001
Manual	1.9	1.5	2.2[a]	1.6	1.7[a]	1.0	1.9*	1.4	3.7	2,761	0.02
Consumption rates											
Units per hour											
Non-manual	2.8	1.3	2.8	1.2	3.0	1.6	2.9*	1.3	24.5	1,759	<0.001
Manual	3.5	1.8	3.4	1.6	3.3	1.7	3.4*	1.7	1.1	2,759	N.S.
Units per day											
Non-manual	4.6	3.7	4.4	3.1	4.5	3.0	4.5*	3.3	46.0	1,760	<0.001
Manual	6.5	5.2	7.6[a]	5.6	5.6[a]	3.7	6.6*	5.0	3.8	2,760	0.02
Units per period											
Non-manual	4.2	3.0	4.2	3.0	4.1	2.6	4.2*	2.9	43.0	1,760	<0.001
Manual	5.7	3.9	6.7	4.7	5.1	3.5	5.9*	4.2	2.9	2,760	N.S.
Total adverse consequences in the past 2 years											
Non-manual	1.6	1.6	1.4	1.4	1.3	1.5	1.4*	1.5	17.4	1,747	<0.001
Manual	2.3	2.1	2.0	1.8	1.6	1.6	2.0*	1.9	0.9	2,747	N.S.

Notes: 1. Analysed by 3(region) x 2(social class of HOH) ANOVA
2. Scores square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.10: Consumption patterns by HOH social class (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
Amounts											
Weekly total[2]											
Non-manual	5.0	4.9	6.5	5.7	9.7	9.9	7.1	7.3	2.0	1,322	N.S.
Manual	5.7	6.7	6.0	6.3	6.9	8.7	6.1	7.2	1.4	2,322	N.S.
Heaviest day[2]											
Non-manual	2.8	2.0	3.7	2.7	3.8	2.4	3.5	2.4	0.3	1,322	N.S.
Manual	3.6	3.2	3.8	3.0	3.7	3.7	3.7	3.3	1.0	2,322	N.S.
% consumed at weekend[2]											
Non-manual	74.8	28.7	70.2	35.1	67.1	27.5	70.4	31.2	0.1	1,323	N.S.
Manual	81.6	33.2	78.2	32.7	67.7	39.0	76.4	35.0	1.0	2,323	N.S.
Drinking times											
Drinking days											
Non-manual	2.0	1.2	2.5	1.7	3.4	2.1	2.6*	1.8	12.5	1,323	< 0.001
Manual	1.7	1.5	1.8	1.1	2.3	1.8	1.9*	1.5	1.4	2,323	N.S.
Drinking periods											
Non-manual	2.1	1.5	2.6	1.8	4.2	3.3	3.0*	2.5	11.3	1,323	0.001
Manual	1.9	2.1	2.0	1.3	2.6	2.3	2.1*	1.9	2.6	2,323	N.S.
Drinking hours											
Non-manual	3.2	3.4	3.7	3.5	5.6	4.6	4.2	3.9	2.9	1,322	N.S.
Manual	3.3	3.6	3.5	2.8	3.5	2.8	3.4	3.1	2.6	2,322	N.S.
Hours per period											
Non-manual	1.5	1.2	1.6	1.4	1.5	0.9	1.5	1.2	3.5	1,322	N.S.
Manual	1.8	1.2	1.9	1.4	1.6	1.1	1.8	1.2	0.2	2,322	N.S.
Consumption rates											
Units per hour											
Non-manual	1.9	0.9	2.1	1.3	1.8	0.8	2.0	1.1	0.6	1,322	N.S.
Manual	1.8	0.9	1.8	1.1	2.0	1.1	1.9	1.1	1.0	2,322	N.S.
Units per day											
Non-manual	2.3	1.5	2.8	1.9	2.8	1.7	2.7	1.8	2.3	1,322	N.S.
Manual	3.1	2.3	3.0	2.0	3.0	2.6	3.1	2.3	0.6	2,322	N.S.
Units per period											
Non-manual	2.2	1.4	2.8	1.9	2.5	1.5	2.5	1.7	3.4	1,322	N.S.
Manual	3.0	2.3	2.9	2.0	2.8	2.6	2.9	2.3	0.7	2,322	N.S.
Total adverse consequences in last 2 years											
Non-manual	0.9	1.4	1.1	1.4	0.8	1.2	1.0	1.4	3.1	1,317	N.S.
Manual	1.3	1.3	1.3	1.6	1.2	1.3	1.2	1.4	0.2	2,317	N.S.

Notes: 1. Analysed by 3(region) x 2(social class of HOH) ANOVA
2. Scores square root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.5 Economic activity status

Male respondents were classified as employed (full- or part-time; temporarily laid-off/sick/disabled), unemployed (seeking work or not), or economically inactive (permanently sick or disabled, retired, housewife, further education). These groupings are employed in census data. Table 9.11 shows that males from the three sub-groups did not differ in terms of drinking days or hours. But consumption totals, rates and adverse consequences were reported in decreasing order of magnitude by those who were unemployed, employed and economically inactive. There was one significant interaction. Employed males from Kent reported more drinking periods than those from the Highlands.

Because so few women were classified as unemployed (see Chapter 7.5 for more details), data for these respondents were combined with that from those people who were economically inactive. In contrast to males, the greatest consumption totals, times, rates, and adverse consequences were reported by employed women (Table 9.12). There were no significant interactions.

Table 9.11: Consumption patterns by economic activity status (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts											
Weekly total[2]											
Employed	15.6	18.0	20.0	21.6	17.4	18.8	17.8*	19.7	10.7	2,973	<0.001
Unemployed	21.7	24.6	17.8	12.9	28.5	31.2	21.8*	22.5	1.1	4,973	N.S.
Inactive	12.5	15.6	14.8	19.3	10.9	14.7	12.6*	16.6			
Heaviest day[2]											
Employed	8.1	7.8	9.2	7.8	7.4	5.9	8.3*	7.3	30.9	2,973	<0.001
Unemployed	11.8	12.0	12.0	10.3	9.9	6.8	11.4*	9.9	0.2	4,973	N.S.
Inactive	4.4	3.5	5.8	5.1	4.0	4.5	4.7*	4.5			
% consumed at weekend[2]											
Employed	69.4	34.8	66.6	31.5	65.4	31.2	67.2	32.5	1.9	2,973	N.S.
Unemployed	69.4	28.1	64.3	36.0	63.3	33.4	65.4	32.9	0.6	4,973	N.S.
Inactive	58.0	36.6	64.9	31.4	58.9	32.4	60.6	33.3			
Drinking times											
Drinking days											
Employed	2.6	1.7	3.1	1.8	3.2	1.9	3.0	1.8	2.8	2,975	N.S.
Unemployed	2.5	1.2	2.3	1.4	3.4	2.3	2.7	1.7	1.5	4,975	N.S.
Inactive	3.3	2.4	3.0	2.1	3.5	2.3	3.3	2.3			
Drinking periods											
Employed	3.0[a]	2.2	3.5	2.4	3.7[a]	3.2	3.4	2.6	2.5	2,975	N.S.
Unemployed	2.7	1.5	2.6	2.0	3.9	3.5	3.0	2.4	2.4	4,975	0.05
Inactive	4.4	4.3	3.2	2.3	4.0	3.1	3.8	3.3			
Drinking hours											
Employed	5.3	5.7	6.9	8.2	6.1	6.2	6.1	6.9	1.2	2,972	N.S.
Unemployed	7.2	8.0	5.1	3.2	7.1	6.7	6.2	5.8	0.7	4,972	N.S.
Inactive	4.6	5.7	5.7	9.6	5.1	10.2	5.2	8.9			
Hours per period											
Employed	1.7	1.3	1.9	1.4	1.7	1.0	1.8*	1.3	11.1	2,971	<0.001
Unemployed	2.4	1.5	2.2	1.4	1.8	0.9	2.2*	1.3	0.7	4,971	N.S.
Inactive	1.2	0.9	1.7	1.5	1.1	1.4	1.3*	1.3			
Consumption rates											
Units per hour											
Employed	3.2	1.6	3.2	1.5	3.1	1.7	3.2*	1.6	9.0	2,968	<0.001
Unemployed	3.3	1.1	3.8	2.2	4.1	2.8	3.8*	2.1	1.5	4,968	N.S.
Inactive	3.0	1.9	3.0	1.4	2.4	1.2	2.8*	1.5			
Units per day											
Employed	5.7	4.7	6.4	5.1	5.2	3.7	5.8*	4.6	27.6	2,970	<0.001
Unemployed	8.0	5.3	9.1	7.6	7.4	4.4	8.4*	6.2	0.1	4,970	N.S.
Inactive	3.5	2.5	4.4	3.5	2.8	2.5	3.5*	2.9			
Units per period											
Employed	5.0	3.6	5.8	4.3	4.7	3.1	5.2*	3.8	32.0	2,970	<0.001
Unemployed	7.7	4.7	7.8	5.8	6.8	4.0	7.5*	5.0	0.3	4,970	N.S.
Inactive	2.9	1.8	4.3	3.4	2.5	2.3	3.2*	2.7			
Total adverse consequences in the past 2 years											
Employed	2.0	2.0	1.7	1.6	1.4	1.5	1.7*	1.7	34.8	2,952	<0.001
Unemployed	2.8	2.5	2.8	2.2	2.6	2.6	2.7*	2.3	0.6	4,952	N.S.
Inactive	0.7	1.2	1.0	1.5	0.5	1.0	0.7*	1.2			

Notes:
1. Analysed by 3(region) x 3(economic activity status) ANOVA
2. Data square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.12: Consumpton patterns by economic activity status (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
Amounts											
Weekly total[2]											
Employed	5.4	5.7	7.2	7.1	9.0	10.2	7.3*	8.1	6.4	1,426	0.01
Other	5.5	6.4	6.0	7.9	5.6	5.2	5.7*	6.6	1.8	2,426	N.S.
Heaviest day[2]											
Employed	3.7	3.3	4.3	3.6	4.0	3.3	4.0*	3.4	14.7	1,428	<0.001
Other	3.0	2.7	3.5	3.6	2.5	1.8	3.0*	2.8	1.0	2,428	N.S.
% consumed at weekend[2]											
Employed	81.8	29.9	75.6	33.3	68.4	33.2	68.9*	32.7	7.2	1,429	0.008
Other	69.0	36.5	65.9	38.9	64.2	34.8	64.0*	35.0	0.4	2,429	N.S.
Drinking times											
Drinking days											
Employed	1.7	1.1	2.2	1.5	2.9	2.1	2.3	1.7	0.1	1,424	N.S.
Other	2.2	1.9	2.1	1.6	2.9	2.2	2.4	2.0	1.1	2,424	N.S.
Drinking periods											
Employed	1.8	1.5	2.3	1.6	3.4	2.9	2.6	2.2	0.1	1,429	N.S.
Other	2.4	2.5	2.1	1.7	3.4	3.1	2.6	2.5	1.0	2,429	N.S.
Drinking hours											
Employed	3.4	3.9	4.2	3.9	5.2	4.4	4.3*	4.1	10.0	1,428	0.002
Other	3.1	3.2	3.3	4.2	3.1	3.0	3.2*	3.5	1.9	2,428	N.S.
Hours per period											
Employed	1.7	1.3	1.9	1.4	1.7	1.0	1.8*	1.2	9.7	1,426	0.002
Other	1.5	1.0	1.8	1.6	1.0	0.7	1.4*	1.2	2.0	2,426	N.S.
Consumption rates											
Units per hour											
Employed	1.9	1.0	1.9	1.1	1.9	1.0	1.9	1.1	0.1	1,424	N.S.
Other	1.8	0.9	1.9	1.3	2.0	0.9	1.9	1.1	0.2	2,424	N.S.
Units per day											
Employed	2.9	2.3	3.2	2.2	3.1	2.3	3.1*	2.3	7.0	1,426	0.008
Other	2.6	2.4	2.9	2.9	2.0	1.4	2.5*	2.3	1.2	2,426	N.S.
Units per period											
Employed	2.9	2.3	3.1	2.2	2.8	2.3	3.0*	2.3	5.8	1,426	0.02
Other	2.5	2.4	2.9	2.9	1.9	1.3	2.4*	2.3	1.0	2,426	N.S.
Total adverse consequences in the past 2 years											
Employed	1.2	1.2	1.3	1.4	1.1	1.3	1.2*	1.3	10.7	1,421	0.001
Other	1.0	1.5	0.9	1.5	0.4	0.9	0.8*	1.4	1.2	2,421	N.S.

Notes:
1. Analysed by 3(region) x 2(economic activity status) ANOVA
2. Data square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.6 Gross annual household income

Respondents were classified as belonging to one of four groups according to their gross annual household income; <£5,900, £6-11,999, £12-17,999 and £18,000+. The limitations of this variable have been discussed in Chapter 7.5. Table 9.13 shows that there were no significant region X income interactions. Nor were there significant main effects for 7 of the 11 variables. Respondents from the poorest households were, however, found to have consumed less alcohol in the previous week as well as upon their heaviest drinking day than did all other respondents. They also consumed fewer units per drinking period than did those from the wealthiest households.

Table 9.14 shows that females from the poorest households generally drank less alcohol, and over less time than those from wealthier households. The sole significant region X income interaction revealed that females from the two wealthiest categories who resided in Kent reported more drinking periods than the Scots. The various economic groups did not differ in rate of consumption of alcohol nor in adverse consequences.

Table 9.13: Consumption patterns by annual household income (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
Amount											
Weekly total[2]											
Less than £5,999	14.3	22.7	16.5	17.9	11.6	15.6	14.4[abc]	18.9			
£6-11,999	14.6	17.8	19.3	17.8	16.8	16.6	17.1[a]	17.6	4.1	3,777	0.006
£12-17,999	18.5	19.1	19.1	23.2	20.6	24.2	19.4[b]	22.1	0.8	6,777	N.S.
£18,000+	18.9	14.4	21.6	26.4	17.9	12.6	19.5[c]	18.6			
Heaviest day[2]											
Less than £5,999	6.7	9.6	8.2	7.7	4.5	4.5	6.7[abc]	7.7			
£6-11,999	7.4	7.0	8.9	7.1	7.8	5.7	8.1[b]	6.8			
£12-17,999	9.4	8.9	9.3	7.5	7.7	7.7	8.8[a]	8.1	5.1	3,777	0.002
£18,000+	10.0	6.6	9.5	10.4	6.3	3.0	8.8[c]	7.5	1.5	6,777	N.S.
% consumed at weekend[2]											
Less than £5,999	64.0	37.7	61.4	34.6	59.7	36.2	61.7	35.8	1.8	3,777	N.S.
£6-11,999	67.8	35.6	67.7	30.4	66.0	30.2	67.3	32.0	0.8	6,777	N.S.
£12-17,999	67.2	33.6	71.3	29.6	62.3	33.2	66.9	32.3			
£18,000+	74.1	29.1	65.5	33.5	46.8	25.6	63.7	31.3			
Drinking times											
Drinking days											
Less than £5,999	2.6	1.9	2.8	1.8	3.1	2.2	2.8	2.0			
£6-11,999	2.6	1.7	3.2	1.9	3.2	1.9	3.0	1.9	1.5	3,778	N.S.
£12-17,999	3.0	1.8	2.9	1.6	3.4	2.1	3.1	1.9	0.7	6,778	N.S.
£18,000+	3.1	2.0	3.1	2.4	4.1	1.9	3.3	2.1			
Drinking periods											
Less than £5,999	3.2	3.6	3.0	2.0	3.5	3.0	3.2	2.9			
£6-11,999	2.9	2.3	3.6	2.4	3.9	3.3	3.4	2.7			
£12-17,999	3.5	2.6	3.2	2.1	4.0	3.1	3.5	2.6	0.5	3,778	N.S.
£18,000+	3.3	2.3	3.3	2.7	4.4	2.4	3.6	2.5	0.7	6,778	N.S.
Drinking hours											
Less than £5,999	4.7	6.2	6.0	8.4	4.1	4.0	5.0	6.7			
£6-11,999	5.0	5.8	6.5	5.6	6.1	8.7	5.9	6.6	2.0	3,776	N.S.
£12-17,999	6.5	6.8	5.6	4.8	6.8	7.8	6.3	6.6	0.9	6,776	N.S.
£18,000+	6.9	6.3	6.5	7.9	8.2	4.9	7.2	6.4			
Hours per period											
Less than £5,999	1.4	1.1	1.9	1.5	1.3	0.9	1.6	1.2			
£6-11,999	1.7	1.3	1.9	1.4	1.6	1.4	1.8	1.4			
£12-17,999	1.8	1.2	1.9	1.2	1.5	0.9	1.7	1.1	2.5	3,776	N.S.
£18,000+	2.3	2.0	2.0	1.4	1.9	0.6	2.1	1.5	0.7	6,776	N.S.
Consumption rates											
Units per hour											
Less than £5,999	3.0	1.6	3.2	1.8	2.7	1.7	3.0	1.7			
£6-11,999	3.2	1.6	3.2	1.3	3.2	1.7	3.2	1.5	1.8	3,775	N.S.
£12-17,999	3.3	1.8	3.3	1.5	3.2	1.7	3.3	1.7	0.8	6,775	N.S.
£18,000+	3.0	1.2	3.1	1.4	2.2	0.7	2.8	1.2			
Units per day											
Less than £5,999	4.7	5.4	6.4	5.8	3.6	3.4	5.1	5.2			
£6-11,999	5.3	3.9	6.3	4.7	5.1	3.3	5.6	4.1			
£12-17,999	6.2	5.2	6.4	5.0	5.1	3.9	5.9	4.7	1.6	3,775	N.S.
£18,000+	7.1	5.2	6.3	6.5	4.3	1.7	6.1	5.1	1.0	6,775	N.S.
Units per period											
Less than £5,999	4.1	3.6	5.5	4.1	3.3	2.9	4.4[a]	3.7			
£6-11,999	4.7	3.3	5.7	4.1	4.6	2.9	5.1	3.6			
£12-17,999	5.1	3.5	5.9	4.0	4.6	3.6	5.2	3.7	2.7	3,775	0.04
£18,000+	6.5	4.9	6.2	6.5	4.0	1.6	5.7[a]	4.9	0.6	6,775	N.S.
Total adverse consequences in the past 2 years											
Less than £5,999	1.5	2.2	1.7	1.8	0.7	1.3	1.3	1.8	2.4	3,757	N.S.
£6-11,999	2.0	2.0	1.6	1.5	1.6	1.8	1.7	1.8	1.4	6,757	N.S.
£12-17,999	2.1	1.9	1.6	1.6	1.5	1.8	1.7	1.8			
£18,000+	2.1	1.3	2.0	1.9	1.5	1.4	1.9	1.5			

Notes:
1. Analysed by 3(region) x 4(gross annual household income) ANOVA
2. Data square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.14: Consumption patterns by annual household income (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amount											
Weekly total[2]											
Less than £5,999	3.7	4.3	5.9	9.2	4.5	4.0	4.7^{abc}	6.3			
£6-11,999	5.0	4.4	7.4	8.0	5.6	4.5	6.1^{a}	6.1	4.7	3,313	0.003
£12-17,999	7.4	7.6	5.8	4.6	7.8	4.5	6.7^{b}	5.8	1.8	6,313	N.S.
£18,000+	8.0	9.2	4.4	3.2	11.9	6.3	7.9^{c}	7.0			
Heaviest day[2]											
Less than £5,999	2.4	2.9	3.4	4.7	2.2	1.9	2.7^{abc}	3.4			
£6-11,999	3.1	2.2	4.3	3.3	3.2	1.9	3.6^{a}	2.6	6.2	3,315	< 0.001
£12-17,999	4.0	3.1	3.5	2.0	4.0	1.5	3.7^{b}	2.3	1.2	6,315	N.S.
£18,000+	4.3	3.0	2.6	1.2	3.8	1.6	3.5^{c}	2.1			
% consumed at weekend[2]											
Less than £5,999	58.9	44.6	60.5	42.4	63.9	37.1	61.3^{ab}	40.8	5.9	3,316	0.001
£6-11,999	82.3	25.5	73.8	32.7	76.5	32.6	77.1^{a}	30.8	1.4	6,316	N.S.
£12-17,999	86.9	20.5	71.7	36.7	71.8	31.1	76.7^{b}	31.6			
£18,000+	76.1	26.5	88.0	22.5	42.9	13.1	69.8	28.3			
Drinking times											
Drinking days											
Less than £5,999	1.8	1.7	1.7	1.4	2.5	1.9	2.0^{b}	1.8			
£6-11,999	1.9	1.1	2.3	1.7	2.3	1.7	2.2^{a}	1.6	4.2	3,316	0.006
£12-17,999	2.3	2.0	2.2	1.3	3.3	2.3	2.4	1.8	2.0	6,316	N.S.
£18,000+	2.5	2.1	2.2	1.2	5.0	1.8	3.2^{ab}	2.1			
Drinking periods											
Less than £5,999	1.8	1.7	1.8	1.5	2.8	2.6	2.1^{a}	2.1			
£6-11,999	1.9	1.3	2.4	1.8	2.6	2.2	2.3^{b}	1.8			
£12-17,999	3.0	3.5	2.4^{d}	1.6	4.2^{d}	3.9	2.9	2.9	5.9	3,316	0.001
£18,000+	2.6^{c}	2.4	2.2	1.2	6.8^{c}	3.7	3.8^{ab}	3.2	2.9	6,316	0.008
Drinking hours											
Less than £5,999	2.1	2.3	3.0	3.5	2.8	3.0	2.6^{ab}	3.0			
£6-11,999	2.9	2.3	4.3	5.2	4.1	4.1	3.8	4.2	3.3	3,315	0.02
£12-17,999	4.8	5.1	3.7	3.4	4.2	2.2	4.2^{a}	3.9	1.3	6,315	N.S.
£18,000+	4.4	5.8	2.5	1.0	6.3	3.0	4.3^{b}	3.9			
Hours per period											
Less than £5,999	1.3	1.2	1.9	1.6	1.1	1.0	1.4	1.3	2.3	3,313	N.S.
£6-11,999	1.6	0.9	2.0	1.7	1.6	1.0	1.8	1.3	0.8	6,313	N.S.
£12-17,999	1.7	1.3	1.5	0.9	1.6	1.3	1.6	1.1			
£18,000+	1.2	0.8	1.3	0.5	1.1	0.5	1.2	0.6			
Consumption rates											
Units per hour											
Less than £5,999	1.9	1.0	1.7	0.9	2.0	1.0	1.8	1.0			
£6-11,999	1.7	0.6	1.9	0.8	1.8	1.1	1.8	0.8	0.8	3,313	N.S.
£12-17,999	1.9	1.1	2.2	1.7	1.9	0.4	2.0	1.4	1.3	6,313	N.S.
£18,000+	2.7	1.6	1.6	0.7	1.9	0.8	2.1	1.1			
Units per day											
Less than £5,999	2.3	2.8	3.1	3.9	1.8	1.5	2.4	2.9			
£6-11,999	2.7	1.7	3.4	2.5	2.6	1.4	2.9	2.0	1.2	3,313	N.S.
£12-17,999	3.0	2.3	2.5	1.1	3.0	1.5	2.8	1.6	1.1	6,313	N.S.
£18,000+	2.8	1.3	1.9	0.8	2.3	0.8	2.3	1.0			
Units per period											
Less than £5,999	2.3	2.8	3.0	3.9	1.8	1.5	2.3	2.9			
£6-11,999	2.6	1.7	3.3	2.5	2.4	1.3	2.8	2.0			
£12-17,999	2.8	2.2	2.4	1.1	2.7	1.7	2.6	1.6	1.1	3,313	N.S.
£18,000+	2.7	1.3	1.9	0.8	1.8	0.6	2.1	1.0	0.9	6,313	N.S.
Total adverse consequences in the past 2 years											
Less than £5,999	1.0	1.6	0.8	1.1	0.5	1.1	0.7	1.3	2.7	3,308	N.S.
£6-11,999	1.2	1.6	1.3	1.5	0.7	1.2	1.1	1.5	0.9	6,308	N.S.
£12-17,999	1.1	1.3	1.2	1.7	1.1	1.1	1.1	1.5			
£18,000+	1.6	1.5	0.9	1.7	1.1	1.5	1.2	1.5			

Notes:
1. Analysed by 3(regions) x 4(gross annual household income) ANOVA
2. Data square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.7 Religion

Respondents were classified as 'protestant' (Church of Scotland, Church of England, Free Church of Scotland, Baptist, Methodist), 'Roman Catholic', or 'other' (Jewish, Moslem, Quaker, none, humanist, other). It should, however, be remembered that degree of religious commitment was not measured.

Table 9.15 shows that here were neither significant main effects for religion nor region X religion interactions for 4 variables: proportion of alcohol consumed at the weekend; number of drinking days and periods; and consumption rate per hour. The statistically significant analyses show that non-protestant respondents reported the heaviest drinking days, the greatest amounts of alcohol consumed, the most drinking time (in hours), the fastest drinking rates per day and per period, and the most adverse effects. One significant interaction was found. Catholics from Tayside drank at a faster rate per period than other Catholics.

No significant differences were found for female respondents (Table 9.16).

Table 9.15: Consumption patterns by religion (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
mounts											
eekly total[2]											
Protestant	13.6	14.7	17.4	19.8	15.1	17.5	15.4*a	17.5	16.5	2,957	< 0.001
Roman Catholic	13.8	20.4	23.7	15.5	16.3	15.3	19.3*	17.0	1.8	4,957	N.S.
Other	28.0	29.0	25.2	28.0	27.6	28.2	26.7a	28.2			
eaviest day[2]											
Protestant	6.9	6.1	8.2	7.1	6.5	5.8	7.2*a	6.4	18.6	2,957	< 0.001
Roman Catholic	6.3	5.3	11.0	7.1	7.1	5.4	8.8	6.6	2.3	4,957	N.S.
Other	14.1	13.7	11.5	10.8	9.5	6.2	11.6*a	10.7			
consumed at weekend[2]											
Protestant	67.6	35.4	66.8	31.2	63.5	32.8	66.0	33.1	0.9	2,957	N.S.
Roman Catholic	77.1	29.6	66.2	31.9	67.2	28.9	69.0	30.5	0.9	4,957	N.S.
Other	62.3	33.1	59.9	34.6	64.9	26.3	62.1	31.6			
inking times											
inking days											
Protestant	2.7	1.8	3.0	1.8	3.1	2.0	2.9	1.9			
Roman Catholic	2.7	2.1	3.2	1.8	3.5	2.1	3.2	2.0	2.0	2,959	N.S.
Other	3.1	1.8	3.0	2.0	3.8	2.2	3.3	2.0	0.6	4,959	N.S.
inking periods											
Protestant	3.2	2.7	3.3	2.3	3.7	3.2	3.4	2.8	1.1	2,959	N.S.
Roman Catholic	3.0	2.6	3.4	2.2	3.9	2.8	3.5	2.4	0.3	4,959	N.S.
Other	3.4	2.4	3.5	2.5	4.5	3.2	3.8	2.7			
inking hours											
Protestant	4.9	5.1	6.2	7.9	5.4	6.9	5.5*	6.8	9.7	2,956	< 0.001
Roman Catholic	4.9	6.2	6.8	4.5	7.0	8.1	6.4*	6.1	0.3	4,956	N.S.
Other	8.4	9.0	8.5	11.2	8.8	7.9	8.6*	9.6			
urs per period											
Protestant	1.6	1.1	1.8	1.4	1.5	1.0	1.6*a	1.2			
Roman Catholic	1.6	1.0	2.2	1.2	1.7	1.3	1.9*	1.2	8.4	2,955	< 0.001
Other	2.3	1.7	2.1	1.6	2.0	1.2	2.1a	1.5	0.7	4,955	N.S.
sumption rates											
ts per hour											
Protestant	3.2	1.7	3.1	1.5	3.0	1.8	3.1	1.7	2.1	2,952	N.S.
Roman Catholic	3.2	1.7	3.7	1.3	2.9	1.8	3.4	1.6	0.9	4,952	N.S.
Other	3.4	1.3	3.5	2.0	3.2	1.3	3.4	1.6			
ts per day											
Protestant	5.1	4.3	5.8	5.0	4.6	3.7	5.2*a	4.4	13.7	2,954	< 0.001
Roman Catholic	4.7	3.0	8.2	4.8	4.5	2.8	6.3*	4.3	2.0	4,954	N.S.
Other	7.9	5.8	7.8	6.6	6.6	3.9	7.5a	5.6			
ts per period											
Protestant	4.4	2.9	5.2	4.2	4.2	3.1	4.6*a	3.5	17.7	2,954	< 0.001
Roman Catholic	4.3b	2.5	7.7 b	4.3	4.1	2.4	5.9*	3.9	3.4	4,954	0.009
Other	7.3	5.3	6.7	5.2	5.9	3.7	6.7a	4.8			
al adverse consequences											
the past 2 years											
Protestant	1.7	1.8	1.6	1.7	1.3	1.5	1.5*a	1.7	10.6	2,937	< 0.001
Roman Catholic	2.2	2.1	2.0	1.6	1.3	1.9	1.8*	1.8	0.8	4,937	N.S.
Other	2.9	2.4	2.2	2.0	1.8	1.9	2.3a	2.1			

es: 1. Analysed by 3(regions) x 3(religion) ANOVA
2. Data square-root transformed for analysis
3. First F value refers to Region effect, second to interaction.

Table 9.16: Consumption patterns by religion (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Amounts											
Weekly total[2]											
Protestant	5.8	6.4	6.3	7.3	7.3	8.1	6.5	7.4			
Roman Catholic	3.7	2.9	5.5	3.6	8.2	9.8	6.2	6.5	0.2	2,424	N.S.
Other	4.4	3.8	11.7	12.5	3.9	1.9	7.3	9.0	1.6	4,424	N.S.
Heaviest day[2]											
Protestant	3.6	3.2	3.7	3.8	3.1	2.8	3.5	3.3			
Roman Catholic	2.4	1.3	4.3	2.5	3.9	2.4	3.9	2.4	1.2	2,426	N.S.
Other	2.2	1.4	4.7	3.9	2.7	2.1	3.4	3.0	1.2	4,426	N.S.
% consumed at weekend[2]											
Protestant	74.7	35.3	69.3	37.2	67.0	33.6	70.0	35.4			
Roman Catholic	76.3	37.0	81.0	33.4	62.7	38.7	73.9	36.1	0.1	2,427	N.S.
Other	77.7	21.6	65.3	32.9	59.0	33.4	68.6	29.3	0.7	4,427	N.S.
Drinking times											
Drinking days											
Protestant	2.0	1.7	2.2	1.6	3.0	2.2	2.4	1.9			
Roman Catholic	1.6	0.9	1.5	0.9	2.6	1.8	1.9	1.4	2.0	2,427	N.S.
Other	2.0	1.0	2.6	1.9	2.2	1.0	2.3	1.4	0.6	4,427	N.S.
Drinking periods											
Protestant	2.2	2.3	2.3	1.7	3.4	3.0	2.7	2.5			
Roman Catholic	1.6	0.9	1.5	0.9	3.3	3.3	2.1	2.2	1.1	2,427	N.S.
Other	2.0	1.0	2.8	1.9	2.2	1.0	2.4	1.5	0.8	4,427	N.S.
Drinking hours											
Protestant	3.4	3.8	3.8	4.3	4.1	3.8	3.8	4.0	0.2	2,426	N.S.
Roman Catholic	2.5	2.4	3.0	2.0	4.7	4.4	3.5	3.2	0.9	4,426	N.S.
Other	2.6	2.4	4.7	3.7	2.6	1.6	3.5	3.0			
Hours per period											
Protestant	1.7	1.5	1.8	2.3	1.3	1.1	1.6	1.2	1.2	2,424	N.S.
Roman Catholic	1.4	0.7	2.2	1.6	1.6	1.1	1.9	1.3	0.7	4,424	N.S.
Other	1.2	0.8	1.8	1.0	1.5	1.7	1.5	1.1			
Consumption rates											
Units per hour											
Protestant	1.9	1.0	1.9	1.1	1.9	0.9	1.9	1.0			
Roman Catholic	1.6	0.4	2.2	1.6	2.1	1.0	2.1	1.3	0.6	2,422	N.S.
Other	1.9	0.9	2.0	1.1	2.0	1.2	2.0	1.0	0.5	4,422	N.S.
Units per day											
Protestant	2.9	2.5	2.8	2.6	2.5	2.0	2.7	2.4			
Roman Catholic	2.3	1.3	4.1	2.5	3.0	1.7	3.4	2.2	1.7	2,424	N.S.
Other	2.0	1.0	3.5	2.2	2.4	2.3	2.7	1.9	1.4	4,424	N.S.
Units per period											
Protestant	2.8	2.5	2.8	2.6	2.3	2.0	2.6	2.3			
Roman Catholic	2.3	1.3	4.0	2.6	2.6	1.5	3.2	2.2	1.4	2,424	N.S.
Other	2.0	1.0	3.4	2.3	2.4	2.3	2.6	1.9	1.3	4,424	N.S.
Total adverse consequences in the past 2 years											
Protestant	1.1	1.4	1.0	1.4	0.7	1.2	0.9	1.3	2.6	2,419	N.S.
Roman Catholic	1.4	1.2	1.4	1.5	0.9	1.5	1.2	1.4	0.1	4,419	N.S.
Other	1.4	1.8	1.6	1.7	1.2	1.2	1.4	1.6			

Notes: 1. Analysed by 3(regions) x 3(religion) ANOVA
2. Data square-root transformed for analysis.
3. First F value refers to Region effect, second to interaction.

9.8 Attitudes and alcohol consumption

In Chapter 5 it was noted that most surveys traditionally reveal a comparatively weak association between alcohol-related attitudes and behaviour. Fishbein (1967) has argued that this is so because of the general tendency towards associating relatively broadly based attitudes with specific measures of drinking behaviour. In other words, stronger associations would be found were attitudinal measures to be more relevant to actual drinking behaviour.

The attitudinal measures in this study were of a general nature. Given the above comments, there is therefore no good reason for relating attitudes to very specific aspects of drinking behaviour (e.g. consumption times and rates). The analyses presented in this section therefore refer only to total consumption in the past week. Data were again square root transformed.

9.8.1 Attitudes towards drinking

Table 9.17 compares the weekly consumption of male regular drinkers who approved/neither approved nor disapproved/disapproved of 10 items referring to drinking behaviour. There were no statistically significant attitudinal effects for 4 items. The significant findings show that respondents who approved of a specific item consumed more than those who were neutral, and who in turn drank more than those who were disapproving. There was one significant interaction. Taysiders who were neutral/approving (the categories were combined) of under age regular drinkers, drank more than similar respondents from Kent.

A similar pattern emerged for female respondents (Table 9.18). There were two significant interactions (items 1,7). These occurred because of the particularly high consumption levels in one cell in each analysis. Both interactions should be disregarded because these particular cells had small Ns (less than 10) and highly skewed distributions.

Table 9.17: Total consumption by attitude to drinking (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Working people drinking regularly at lunchtime											
Disapprove	13.0	14.6	17.0	16.2	14.3	15.9	14.9*	15.7			
Neither	20.3	21.9	22.5	25.7	18.0	19.0	20.1*	22.2	13.3	2,968	< 0.001
Approve	26.9	29.5	26.2	33.1	23.5	28.4	25.1	29.9	0.6	4,968	N.S.
People keeping a supply of alcohol at home											
Disapprove	14.2	19.3	20.6	19.0	27.3	24.4	20.0	20.8			
Neither	12.6	14.8	21.8	25.5	13.6	13.9	16.1	19.4	0.8	2,974	N.S.
Approve	16.6	19.0	18.2	19.2	17.4	20.5	17.4	19.6	2.2	4,974	N.S.
Underage regular drinkers[2]											
Disapprove	14.0	17.1	17.5	19.4	16.4	18.8	16.1*	18.6	28.2	1,971	< 0.001
Neither/Approve	25.2	22.3	31.9[a]	26.3	19.0[a]	23.6	25.9*	24.5	3.2	2,971	0.04
Alcohol being sold in supermarkets											
Disapprove	15.3	21.0	14.7	16.0	14.0	20.8	14.6[a]	19.3			
Neither	12.6	15.9	20.1	26.4	13.3	18.0	15.0[b]	20.3	8.9	2,970	<0.001
Approve	17.0	18.6	19.6	19.8	19.3	19.4	18.7[ab]	19.3	1.1	4,970	N.S.
People drinking regularly at least 3 times a week											
Disapprove	9.5	13.7	8.4	9.1	8.1	14.3	8.9*	12.7			
Neither	12.8	13.4	15.1	15.0	12.9	13.4	13.7*	14.0	45.9	2,966	< 0.001
Approve	22.1	23.2	24.1	24.5	21.2	22.6	22.6*	23.5	0.2	4,966	N.S.
People allowing 12 year olds to sample drink											
Disapprove	14.7	17.2	19.4	21.8	16.8	20.6	17.1	20.1			
Neither	13.5	11.5	16.9	14.7	16.0	17.1	15.6	15.1	1.6	2,969	N.S.
Approve	23.6	27.2	18.9	14.5	16.2	14.4	18.9	18.8	0.7	4,969	N.S.
People drinking alone regularly											
Disapprove	16.4	19.4	19.2	21.7	13.5	13.9	16.8[a]	19.3			
Neither	13.4	14.1	17.0	14.4	17.1	19.4	16.2[b]	16.4	1.8	2,960	N.S.
Approve	17.2	20.6	23.2	27.5	20.7	24.3	20.9[ab]	24.9	0.8	4,960	N.S.
People drinking regularly with meals											
Disapprove	8.9	9.3	14.4	11.6	14.9	20.9	12.0*[a]	13.5			
Neither	16.6	17.1	18.9	22.3	17.7	21.9	17.8*	20.5	10.1	2,968	< 0.001
Approve	19.6	22.8	20.9	21.9	16.4	16.7	18.9[a]	20.4	1.0	4,968	N.S.
Women drinking in pubs											
Disapprove	9.5	10.8	16.2	19.8	12.7	20.9	12.8*	17.1			
Neither	13.3	14.5	20.1	24.3	13.1	13.3	15.5[a]	18.2	12.8	2,971	< 0.001
Approve	20.0	21.9	19.7	19.4	19.1	21.1	19.6*[a]	20.7	1.3	4.971	N.S.
People driving after 1-2 drinks (1-2 ½ pints, 1-2 glasses of wine/spirits)											
Disapprove	15.0	19.7	19.6	22.5	16.5	21.3	17.2	21.3			
Neither	18.7	15.1	20.0	17.5	15.8	15.0	17.8	15.9	1.5	2,967	N.S.
Approve	15.0	12.0	16.3	15.2	19.0	19.1	17.0	16.1	1.5	4,967	N.S.

Notes: 1. Analysed by 3(region) x 3(degree of approval of item) ANOVA. Data square-root transformed for analysis.
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.18: Total consumption by attitudes to drinking (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F[1]	df	p
Working people drinking regularly at lunchtime											
Disapprove	5.1	5.8	5.4	4.8	6.5	7.8	5.6*	6.1			
Neither	5.5	5.7	9.8	10.7	8.8	9.6	8.4*	9.4	4.6	2,421	0.01
Approve	8.0	7.7	6.6	6.9	6.6	6.2	6.8	9.5	0.8	4,421	N.S.
People keeping a supply of alcohol at home											
Disapprove	3.4	3.6	14.1	15.7	4.9	5.7	7.8	10.9			
Neither	4.0	5.4	6.1	7.7	7.6	10.7	6.0	8.5	1.2	2,424	N.S.
Approve	6.2	6.3	6.3	6.3	7.3	7.3	6.6	6.7	2.4	4,424	0.05
Underage regular drinkers[2]											
Disapprove	5.6	6.1	6.2	6.8	7.4	8.3	6.4	7.2	0.2	1,424	N.S.
Neither/Approve	3.9	3.2	10.8	11.3	4.7	4.7	7.4	8.7	2.2	2,424	N.S.
Alcohol being sold in supermarkets											
Disapprove	4.5	4.0	5.4	6.0	5.5	4.9	5.2*	4.9			
Neither	5.3	7.1	4.4	4.4	8.0	9.3	5.9	7.3	3.9	2,422	0.02
Approve	6.0	6.0	7.9	8.6	7.7	8.8	7.3*	8.1	1.4	4,422	N.S.
People drinking regularly at least 3 times a week											
Disapprove	2.7	2.2	3.2	2.5	4.6	3.6	3.3*	2.8			
Neither	5.4	6.4	5.6	6.0	6.7	8.3	5.9*	6.8	19.3	2,417	< 0.001
Approve	7.8	6.7	10.7	10.1	8.6	9.0	9.0*	8.9	1.1	4,417	N.S.
People allowing 12 year olds to sample drink											
Disapprove	5.4	6.1	6.7	8.1	7.3	8.7	6.5	7.8			
Neither	7.3	7.0	7.0	5.2	5.5	3.3	6.5	5.1	0.4	2,425	N.S.
Approve	5.0	4.4	6.0	4.6	8.1	8.4	6.9	6.8	0.5	4,425	N.S.
People drinking alone regularly											
Disapprove	5.2	6.1	5.7	6.0	7.7	8.9	6.1	7.0			
Neither	6.1	5.9	6.9	7.1	7.5	8.5	7.0	7.5	1.2	2,418	N.S.
Approve	8.3	6.8	12.7	10.5	5.3	3.7	7.8	7.1	2.5	4,418	0.04
People drinking regularly with meals											
Disapprove	3.5	3.9	5.4	6.1	6.6	7.3	5.0*	5.8			
Neither	4.8	5.8	6.7	6.9	7.2	10.1	6.3*	7.6	3.9	2,421	0.02
Approve	7.3	6.9	7.6	9.3	7.5	7.5	7.5*	7.9	0.7	4,421	N.S.
Women drinking in pubs											
Disapprove	3.4	3.4	3.1	2.2	3.5	3.5	3.4*	3.0			
Neither	5.1	7.1	4.7	4.3	7.6	9.9	5.7*	7.3	14.3	2.424	< 0.001
Approve	6.5	6.0	8.3	8.8	8.0	8.3	7.7*	9.4	1.6	4,425	N.S.
People driving after 1-2 drinks (1-2 ½ pints, 1-2 glasses of wine/spirits)											
Disapprove	5.5	6.1	6.3	7.5	6.1	6.0	6.0*	6.7			
Neither	3.8	3.2	10.4	9.7	10.7	10.5	8.7*	9.1	3.5	2,425	0.03
Approve	7.6	8.1	6.4	4.5	8.6	11.5	7.8	9.4	1.6	4,425	N.S.

Notes:
1. Analysed by 3(regions) x 3(degree of approval of item) ANOVA. Data square-root transformed for analysis.
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

9.8.2 Attitudes towards drunkenness

Tables 9.19 & 9.20 relate consumption to degree of approval towards 8 items referring to drunkenness. The tables clearly show that for both sexes disapproval towards drunkenness was associated with lower levels of consumption than either neutrality or disapproval. There were no significant region X attitudes interactions.

Table 9.19: Total consumption by attitudes to drunkenness (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Men occasionally getting drunk											
Disapprove	11.8	16.4	12.1	10.8	14.3	16.7	13.0*	15.3			
Neither	13.6	15.5	18.6	19.9	15.6	19.3	16.2*	18.5	22.9	2,972	< 0.001
Approve	21.2	21.2	23.1	24.3	21.4	22.1	22.1*	22.8	0.8	4,972	N.S.
Women occasionally getting drunk											
Disapprove	14.4	17.5	16.3	18.6	15.2	19.0	15.3*	18.4			
Neither	13.4	15.0	20.9	19.3	17.0	17.2	17.6*	17.7	12.7	2,972	< 0.001
Approve	21.7	22.4	23.8	26.7	21.8	22.5	22.5*	24.0	0.9	4,972	N.S.
Drunken people in the streets[2]											
Disapprove	14.2	16.8	17.9	18.8	16.4	19.3	16.2*	18.4	16.3	1,949	< 0.001
Neither/Approve	23.9	24.0	25.2	27.6	20.7	20.9	23.8*	25.0	1.4	2,949	N.S.
People getting drunk at parties											
Disapprove	13.0	17.5	12.3	12.2	11.7	11.8	12.3*	13.9			
Neither	13.8	17.1	18.8	18.1	16.5	19.4	16.6*	18.3	24.1	2,968	< 0.001
Approve	19.3	19.2	23.3	25.9	23.2	24.2	22.0*	23.4	0.7	4,968	N.S.
People getting drunk at home											
Disapprove	14.1	18.4	18.0	22.2	14.1	17.1	15.4*	19.4			
Neither	14.0	14.5	18.5	17.6	17.9	18.8	17.0*	17.3	10.4	2,962	< 0.001
Approve	22.2	22.1	22.3	22.8	21.1	23.7	21.9*	22.8	0.7	4,962	N.S.
People planning to get drunk to celebrate											
Disapprove	13.7	19.2	12.9	14.8	15.7	19.8	14.2*	18.2			
Neither	14.4	15.6	17.7	15.0	18.4	20.4	17.0*	17.0	19.9	2,966	< 0.001
Approve	18.6	18.5	26.6	26.9	18.4	18.1	21.8*	22.6	2.2	4,966	N.S.
People getting drunk because of boredom, anxiety, etc.											
Disapprove	14.9	18.3	17.1	20.5	15.7	17.9	15.9*	19.0			
Neither	15.9	15.1	20.4	19.3	18.1	21.4	18.4[a]	19.0	11.2	2,962	< 0.001
Approve	23.3	26.1	32.0	24.7	25.2	25.5	27.2*[a]	25.3	0.4	4,962	N.S.
People getting drunk for no particular reason											
Disapprove	13.9	16.4	16.6	19.7	13.9	16.2	14.9*	17.6			
Neither	18.8	20.6	22.6	18.6	22.2	24.2	21.3*	21.0	23.2	2,962	< 0.001
Approve	23.5	26.9	32.7	33.8	28.3	24.7	28.7*	28.8	0.5	4,962	N.S.

Notes: 1. Analysed by 3(region) x 3(approval of item) ANOVA with data square-root transformed
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.20: Total consumption by attitudes to drunkenness (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
Men occasionally getting drunk											
Disapprove	4.5	4.9	5.2	5.0	6.5	7.8	5.6[a]	6.3			
Neither	5.4	6.6	6.2	5.2	8.4	9.8	6.7	7.5	4.6	2,417	0.01
Approve	6.7	6.5	9.2	11.4	6.9	4.9	7.8[a]	8.6	0.5	4,419	N.S.
Women occasionally getting drunk											
Disapprove	4.1	4.5	5.0	5.0	6.3	7.1	5.2*[a]	5.8			
Neither	7.3	7.8	7.8	7.0	8.8	10.9	8.1*	8.8	16.5	2,426	< 0.001
Approve	8.5	7.4	10.3	12.3	9.8	4.5	9.5[a]	9.4	0.1	4,426	N.S.
Drunken people in the streets[2]											
Disapprove	5.2	5.6	6.2	6.1	6.9	7.7	6.2*	6.6	6.1	1,424	0.01
Neither/Approve	9.9	10.9	10.3	14.9	12.3	14.6	10.7*	13.6	0.3	2,424	N.S.
People getting drunk at parties											
Disapprove	4.6	5.6	5.0	5.2	6.7	7.5	5.6*	6.4			
Neither	4.5	6.0	6.3	6.5	7.7	9.6	6.3[a]	7.6	7.3	2,421	0.001
Approve	7.7	6.3	9.7	11.0	8.2	7.7	8.6*[a]	8.7	0.7	4,421	N.S.
People getting drunk at home											
Disapprove	4.4	5.2	5.7	6.1	7.2	7.4	5.9*	6.5			
Neither	6.3	7.6	6.8	7.7	7.5	10.1	6.9*	8.5	5.8	2,423	0.01
Approve	7.5	5.4	11.3	11.6	6.5	7.9	8.4*	8.4	2.1	4,423	N.S.
People planning to get drunk to celebrate											
Disapprove	5.0	6.2	5.2	5.0	6.5	7.3	5.6*	6.3			
Neither	5.3	5.4	6.5	5.3	8.4	10.4	6.6*	7.2	9.4	2,419	0.001
Approve	6.9	6.5	10.1	11.7	8.5	9.0	8.7*	9.6	0.6	4,419	N.S.
People getting drunk because of boredom, anxiety, etc.[2]											
Disapprove	5.2	5.7	6.0	6.6	6.3	7.1	5.9*	6.5	12.8	1,420	< 0.001
Neither/Approve	7.2	8.0	9.2	10.2	9.8	10.6	9.0*	9.9	0.2	2,420	N.S.
People getting drunk for no particular reason[2]											
Disapprove	4.8	5.3	6.1	6.6	6.6	6.9	5.9*	6.4	10.4	1,421	0.001
Neither/Approve	11.5	8.9	7.5	7.5	9.8	12.2	9.1*	9.9	2.4	2,421	N.S.

Notes:
1. Analysed by 3(region) x 3(approval of item) ANOVA with data square root transformed.
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

9.8.3 Expectations about the effects of alcohol

Table 9.21 compares weekly consumption for males who reported that it was "not likely", "likely", or "very likely" that they would experience any of 6 effects from drinking alcohol. The table clearly shows that the likelihood of experiencing a particular effect increased with consumption. There were no significant region X expectancy interactions.

Similar findings were found for females (Table 9.22). There was, however, a significant interaction in respect of expectations of aggressive behaviour. This arose because of the high consumption level in one cell but should, however, be disregarded because of the low N and highly skewed distribution of scores within that cell. So too should the significant main effect regarding the expectation of being upset or depressed be treated with caution.

Table 9.21: Total consumption by self expectations (male regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
aggressive[2]											
not likely	15.1	17.6	18.2	20.8	16.1	18.8	16.6*	19.2	17.3	1,971	<0.001
likely/very likely	19.7	23.7	27.7	19.1	27.6	26.5	25.0*	22.6	1.2	2,971	N.S.
amorous (sexually aroused)											
not likely	13.5	16.6	15.5	18.2	14.6	17.4	14.6*	17.4	18.3	2,952	<0.001
likely	16.9	16.2	21.3	18.3	19.6	21.4	19.5*	18.7	0.3	4,952	N.S.
very likely	24.1	30.2	24.0	20.9	25.3	24.9	24.4	25.4			
relaxed											
not likely	7.4	9.2	10.4	8.8	11.9	22.1	10.1*	15.7	22.3	2,969	<0.001
likely	14.9	17.6	17.0	17.2	15.5	15.9	16.0*	16.9	0.3	4,969	N.S.
very likely	19.1	20.3	25.7	27.6	22.0	24.1	22.3*	24.3			
friendly and sociable											
not likely	12.0	25.1	13.1	15.9	15.0	23.1	15.1*	17.0	16.8	2,966	<0.001
likely	14.4	16.3	15.9	17.5	14.8	17.1	21.4*	21.8	1.0	4,966	N.S.
very likely	18.3	19.2	25.4	24.0	20.0	21.4	11.9*	13.1			
upset or depressed[2]											
not likely	14.8	17.2	18.9	20.9	16.7	19.6	16.9*	19.4	8.4	1,971	0.004
likely/very likely	31.7	29.2	22.8	17.7	19.2	18.7	23.9*	21.8	1.9	2,971	N.S.
cheerful											
not likely	8.1	9.9	13.0	14.3	12.2	18.0	10.9*	14.6	16.4	2,969	<0.001
likely	15.5	17.7	17.6	19.9	16.2	17.7	16.6*	18.7	0.5	4,969	N.S.
very likely	18.6	20.6	24.2	23.3	20.3	22.8	21.0*	22.3			

Notes: 1. Analysed by 3(region) x 3(likelihood of effect) ANOVA for square-root transformed data.
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

Table 9.22: Total consumption by self expectations (female regular drinkers)

	H		T		K		(H+T+K)				
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F^1	df	p
aggressive											
not likely	5.4	6.0	6.2	6.6	7.4	8.3	6.4*	7.1	4.3	1,425	0.04
likely/very likely	7.8	6.4	16.3	16.1	4.0	2.7	10.7*	12.3	3.3	2,425	0.04
amorous (sexually aroused)											
not likely	5.3	6.1	6.3	8.2	6.8	8.3	6.2*	7.7	6.3	1,419	0.01
likely/very likely	6.4	6.1	7.2	6.1	8.3	8.2	7.4*	6.9	0.1	2,419	N.S.
relaxed											
not likely	4.3	5.0	2.8	2.2	4.5	4.1	3.7*	3.6	7.5	2,421	0.001
likely	4.8	5.2	6.7	7.9	7.3	8.8	6.4*	7.7	0.4	4,421	N.S.
very likely	7.5	7.8	8.5	7.1	8.2	7.3	8.1*	7.4			
friendly and sociable											
not likely	3.8	5.1	3.1	2.9	6.9	10.4	4.7*	7.1	6.4	2,417	0.002
likely	5.1	5.5	6.6	7.6	7.3	8.3	6.4*	7.4	0.7	4,417	N.S.
very likely	6.9	7.3	8.8	8.4	7.6	7.1	7.8*	7.6			
upset or depressed											
not likely	5.1	5.5	6.4	6.8	7.0	7.5	6.2*	6.8	9.0	1,419	0.003
likely/very likely	9.3	9.6	10.2	14.9	13.0	14.8	10.8*	12.9	0.3	2,419	N.S.
cheerful											
not likely	4.2	4.7	3.7	4.0	7.4	10.5	5.3*	7.5	5.2	2,415	0.006
likely	5.3	6.0	6.5	7.5	7.3	8.0	6.4*	7.3	1.1	4,415	N.S.
very likely	7.0	6.8	9.2	8.8	7.5	6.9	7.9*	7.5			

Notes: 1. Analysed by 3(region) x 3(likelihood of effect) ANOVA for square root transformed data
2. Data collapsed for analysis.
3. First F value refers to Region effect, second to interaction.

9.9 Prediction of consumption patterns and adverse consequences

In Chapter 8 it was noted that consumption patterns in the previous week varied in accordance with area of residence. The preceding sections of this chapter have further demonstrated that such patterns are influenced by various socio-demographic factors. Moreover, attitudes towards, and expectations about, the effects of alcohol are significantly related to total consumption in the past week.

The mere fact of statistical significance does not, however, imply relevance or importance. Indeed, the likelihood of achieving statistical significance is increased when large sample populations are studied (as was the case in this study). This can be seen by further inspecting the data presented in the various tables incorporated in Chapters 8 & 9. In many instances high levels of statistical significance were achieved despite the relatively minor differences between area populations or sub-populations. It should also be noted that the likelihood of achieving spuriously significant differences increases when a large number of statistical comparisons are made (as was the case here).

One way of minimising spurious or trivial differences is to accept stricter levels of significance than the conventional 5% or 1% levels. By so doing it is clear that though many of the previously noted differences would disappear, many seemingly trivial (at face-value) differences would remain. Another approach is to use a stepwise multiple regression analysis to predict variance for

a particular measure. Table 9.23 presents data from several such analyses aimed at predicting the various consumption and adverse consequence variables employed throughout this thesis.

Thirteen predictor variables relating to socio-demographic differences; region of residence and of birth; attitudes towards drinking, drunkenness, and to expectations were used (see Chapter 8.1 for explanations of the abbreviations used in the Table). Another regression also considered total adverse consequences during the past two years. In addition to the previously mentioned predictor variables, additional items relating to binge drinking in the past two years (see Chapter 8.2.2.2) and to total consumption in the past week were also included in the latter regression.

Consideration of Table 9.23 shows that area of residence had only a minor effect on all of the various consumption and consequence variables, accounting for less than 1% of the variance in each instance. Indeed inspection of the consumption variables only shows that the total explained variance ranged between 10.2% (proportion of alcohol consumed at the weekend) and 30.3% (total alcohol consumed last week, square-root transformed). The most consistently 'highly' predictive variables (defined as being among the top three) were respondent sex followed by either of the composite measures of attitudes towards drinking or towards drunkenness. Taken together respondent sex and either of these variables accounted for around 75% of the total explained variance in 8 of the 10 consumption variables. Attitudes towards drunkenness were more prominent than were those towards drinking per

se for variables relating to heavy drinking days or to consumption rates. The converse was true for amount consumed last week and for drinking times.

About 40% of the variance in respect of adverse consequences of drinking experienced over the past two years were explained by the list of variables shown in Table 9.23. By accounting for about 31% of the total variance, self-reported number of occasions in which the respondent exceeded 8 units in a day over the past two years was the greatest single predictor. Indeed, virtually all of the explained variance was accounted for by the combination of number of occasions in which safe daily drinking limits (i.e. 8 units) were exceeded, and attitudes towards drunkenness.

The regressions listed in Table 9.23 refer to <u>all</u> respondents. It should be noted that the base for analysis ranged between 1010 and 1040, out of a potential maximum of 2349 respondents. The substantial reduction in the base can be attributed to three variables. Both social class of the head of household (CLASS) and economic activity status (WORK) by definition resulted in many missing values and thereby excluded many respondents from the analyses (see Chapter 7.5). Moreover, the non-response rate to the item estimating gross annual household income (INCOME) was high (see Chapter 7.5). But it should be noted that even when these variables were removed from the analyses thereby increasing Ns (see Appendix E) the overall findings remained unchanged.

Table 9.23: Stepwise multiple regression predicting drinking variables in past week and adverse consequences in past 2 years (all respondents)

Total consumption[a]			Heaviest drinking day[a]			% consumed at weekend[a]		
	Multiple			Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2	Variable	R	R^2
Sex	.376	.141	Sex	.355	.126	Attdrink	.216	.047
Attdrink	.484	.234	Attdrunk	.452	.204	Income	.252	.063
Expect+	.512	.262	Expect+	.482	.232	Sex	.279	.078
Attdrunk	.527	.277	Attdrink	.497	.247	Attdrunk	.297	.088
Income	.541	.292	Income	.507	.257	Expect+	.307	.094
Expect-	.546	.298	Expect-	.514	.264	Class	.311	.097
Age	.548	.300	Age	.519	.269	Religion	.314	.098
Class	.549	.301	Class	.519	.270	Marital	.315	.099
Religion	.549	.302	Religion	.520	.271	Expect-	.317	.100
Marital	.550	.302	Region	.521	.271	Age	.318	.101
Region	.550	.302	Birth	.521	.272	Work	.319	.102
Birth	.551	.303	Marital	.521	.272	Birth	.319	.102
Work	.551	.303	Work	.521	.272	Region	.319	.102
Base	1039			1040			1039	

Note: a. In past week, square root transformed

Total drinking days[a]			Total drinking hours[a]			Total drinking periods[a]		
	Multiple			Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2	Variable	R	R^2
Attdrink	.383	.147	Attdrink	.306	.094	Attdrink	.352	.124
Sex	.440	.194	Sex	.370	.137	Sex	.403	.163
Income	.461	.213	Attdrunk	.394	.155	Income	.417	.174
Class	.471	.222	Income	.409	.167	Class	.422	.178
Expect+	.474	.225	Expect+	.419	.176	Expect+	.426	.182
Age	.477	.228	Age	.423	.179	Age	.431	.186
Region	.479	.230	Class	.425	.180	Region	.433	.188
Expect-	.480	.230	Expect-	.427	.182	Expect-	.434	.188
Marital	.481	.231	Religion	.428	.183	Religion	.434	.189
Religion	.481	.231	Marital	.430	.185	Birth	.435	.189
Birth	.481	.232	Birth	.430	.185	Attdrunk	.435	.189
Attdrunk	.482	.232	Work	.431	.185	Marital	.435	.189
Work[b]			Region	.431	.186	Work[b]		
Base	1038			1037			1038	

Notes: a. In past week
b. Did not significantly contribute to regression

Time (hours) per period[a]			Units per hour[a]			Units per day[a]		
	Multiple			Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2	Variable	R	R^2
Attdrunk	.273	.074	Sex	.381	.145	Attdrunk	.346	.120
Expect+	.322	.103	Attdrunk	.436	.190	Sex	.449	.202
Sex	.340	.116	Income	.449	.202	Expect+	.475	.226
Age	.355	.126	Expect+	.459	.211	Age	.489	.239
Income	.362	.131	Attdrink	.466	.217	Expect-	.498	.248
Attdrink	.367	.135	Expect-	.471	.222	Income	.503	.253
Marital	.368	.136	Region	.472	.223	Religion	.506	.256
Work	.370	.137	Age	.473	.224	Birth	.509	.259
Expect-	.371	.138	Marital	.474	.224	Class	.510	.260
Class	.373	.139	Class	.474	.225	Attdrink	.511	.261
Birth	.374	.140	Religion	.474	.225	Region	.511	.261
Religion	.375	.141	Work	.474	.225	Work	.511	.261
Region[b]			Birth[2]			Marital[b]		
Base	1037			1036			1036	

Notes: a. In past week
b. Did not significantly contribute to regression

Units per period[a]			Total consequences[b]		
	Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2
Attdrunk	.364	.133	Total8	.557	.310
Sex	.466	.217	Expect-	.590	.348
Age	.492	.242	Total14	.611	.374
Expect+	.508	.258	Attdrunk	.624	.389
Expect-	.518	.268	Expect+	.632	.399
Income	.524	.274	Region	.634	.402
Religion	.528	.278	Sqrtweek	.636	.405
Birth	.529	.280	Sex	.638	.407
Region	.530	.281	Religion	.639	.408
Attdrink	.530	.281	Age	.640	.409
Class	.531	.282	Income	.640	.410
Work	.531	.282	Work	.640	.410
Marital	.531	.282	Attdrink	.641	.411
			Birth	.641	.411
			Class	.641	.411
			Marital[c]		
Base	1036			1010	

Notes: a. In past week
b. Over past 2 years
c. Did not significantly contribute to regression

9.10 Summary

This chapter found no major differences between the three areas in respect of the drinking patterns of specific population subgroups. It was shown that, irrespective of region, drinking habits varied with age, social class, attitudes etc.* But it was further demonstrated that the power of the various socio-demographic and attitudinal measures for predicting consumption patterns and adverse consequences was low. Moreover, region of residence accounted for a trivial proportion of variance in drinking patterns and consequences.

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* The data for each ANOVA presented in this chapter were re-analysed by means of analysis of covariance to eliminate the potentially confounding effects of other socio-demographic variables. In most instances these further analyses did not affect statistically significant main effects due to age, social class etc. Many of the significant interactions were, however, eliminated. And in a very few instances newly significantly results were obtained (but can be discounted because of small cell means occurring because of the analysis). Because these analyses of covariance contributed little to the main findings of the study, and because of reasons of space, these additional data are not included in the thesis.

CHAPTER 10

DISCUSSION

The findings from this survey indicate that the considerable differences in problem drinking rates which exist between the three areas cannot be explained by differences either in mean alcohol consumption levels, times or rates amongst the respective general populations. Of the three areas the Highland Region manifested the highest rates of alcohol-related problems (Kilich & Plant 1981; Haskey et al 1983). It was hypothesised that the Highlands would be characterised by one or more of the following: more drinkers; more heavy drinkers; more frequent drinking occasions; more binge drinking; higher mean consumption levels; or faster consumption rates. None of these hypotheses were supported. There were significant though generally minor differences between the areas (a) Highlanders exhibited the highest rates of abstention and of light drinking (b) of the male respondents, Taysiders reported the highest consumption levels, consumption rates and the most frequent binge drinking, (c) the areas differed in relation to beverage preference. None of these differences supported the original hypotheses. Nor was there evidence that the drinking patterns of specific population sub-groups varied in accordance with problem drinking statistics. There was, however, some evidence that Scots (especially Taysiders) were more likely to exceed daily safe drinking limits over the past two years (Chapter 8.2.2). This may in part account for some of the differences in self-reported adverse consequences which may be found between persons north and south of

the border during that period.

Other explanations for the regional variation in problem drinking must therefore be considered.

10.1 Alternative explanations

10.1.1 The Respondent selection procedure may have resulted in biased samples. At 69% the overall response rate was modest. The response rate in Kent was slightly but significantly lower than in Scotland, possibly leading to biased findings. But it has already been noted that there is evidence suggesting that moderate response rates need not markedly affect the findings of a survey (Chapter 3.4.2). This particular issue was further investigated in three ways.

Firstly, Wilson (1981) has argued that persons who are difficult to contact (i.e. require 4+ calls to achieve interview) are similar to eligible persons who do not participate in a survey. It was therefore predicted (Appendix A.4) that Highlanders who were difficult to contact would report higher consumption levels than would similar respondents elsewhere. However, no such differences were found among males. Indeed, considering females, only those from Kent who were difficult to contact reported increased consumption levels, while those from Scotland reported a reduction.

Secondly, a follow-up survey of persons who were unavailable for interview during the main data gathering period was made

(Appendix B). It was found that participants and non-participants showed few differences in either socio-demographic or in drinking habits. (Because of the small sample size it was not possible to analyse this data for regional differences.) There was, however, some evidence that participants in the main survey consumed more on their last drinking day than did those in the follow-up survey.

Finally, few differences emerged when the three areas were compared over a number of socio-demographic variables (Chapter 7.5). The areas differed in that (a) respondents in Kent were older than those elsewhere, (b) male Highlanders were most likely to live in a professional household, and (c) females in Tayside were least likely to report an annual gross household income of less than £5,999 and most likely to report that it lay between £12,000 - £17,999. It is unlikely that these differences caused major biases: in each instance the numerical differences between areas was small. Indeed Chapter 9.9 demonstrates the relatively minor predictive power of such variables in respect of drinking patterns and alcohol-related consequences.

10.1.2 The survey did not adequately sample very heavy drinkers

The eligible sample was created by randomly selecting persons who were listed on the Electoral Register (or who were potentially so - see Chapter 6.4) and who were not resident in institutions. This is a common practice in the United Kingdom. By so doing, the survey reduced the likelihood of sampling very heavy drinking respondents who were especially prone to experiencing alcohol-

related problems (Chapter 3.4.1). It is conceivable that the patterns of consumption and of adverse alcohol-related consequences displayed by such people varied in a manner sufficient to account for the variation in problem-drinking rates.

A companion survey by Latcham (1985) of 237 psychiatric first admissions in each of the three study areas for the treatment of alcohol-related problems was designed to investigate such a possibility. By applying a standard schedule in order to eliminate differential diagnostic practice in each area, Latcham found that among males the proportion who were dependent was greatest in the Highlands and least in Kent. But the difference did not achieve statistical significance. No important area differences were found between males in respect of quantity of alcohol consumed during a typical drinking week, though male Highlanders drank more in the week prior to admission. Male Taysiders reported the most public order, employment and health problems.

Taken together, Latcham's findings suggest that the drinking behaviour of at least one deviant drinking sub-population (i.e. psychiatric inpatient first admissions) do not dramatically differ between the three areas. But even if the drinking behaviour of this and other groups did or do differ in the predicted direction, it is unlikely that the magnitude of differences would be sufficient to account for the regional variation in rates of problem drinking. For Kreitman (1985) in a re-analysis of data from several studies (including the present survey) has demonstrated that though heavy drinkers are most at risk of experiencing alcohol-related

difficulties, they in fact constitute a small proportion of all individuals who report such consequences.

10.1.3 The Highlanders were specially prone to underreporting. The interview schedule did not include items specifically intended to measure deception. It seems likely, however, that if the Highlanders were prone to underreporting, they would have been most likely to have done so when in the presence of a third party. However as was demonstrated in Appendix A3, the presence of a third party had a relatively minor effect upon the reporting of alcohol consumption.

There was, however, some evidence that respondents from the Highlands were particularly prone to memory loss in respect of drinking during the past week (Appendix A2). This was ascertained by assuming that recall was perfect for the day before interview, and by comparing data from the remaining six days with yesterday. By so doing it was found that on average and for both sexes combined, the proportion of persons who drank between days 2-7 as compared to yesterday was 71.2% in the Highlands, as compared to 83.6% in Tayside and 91.4% in Kent. However, it was noted in Appendix A.2 that the measures of memory loss employed in these analyses were crude. Moreover, the influences of various biases varied by area and by respondent sex. Clearly further research into under-reporting is required.

10.1.4 The selected areas may have been unrepresentative of their respective countries. The three areas were selected because they exhibited considerable differences in problem drinking rates. It is possible, however, that the present study might have produced strong north-south differences had different study areas been surveyed. There are several good reasons to support the belief that such an exercise might produce similar results to the present study. Firstly, the mean weekly consumption levels for males in the Highlands and Kent were slightly lower than those obtained in several (but not all) other surveys (see Chapter 4, Fig 4.1). So too were the proportions of heavy drinkers (i.e. consuming more than 50 units last week) in each area. But the differences were not of sufficient magnitude to cast doubt upon the present findings. Secondly, consideration of several of the previous investigations (eg Wilson 1980a) revealed essentially similar levels of consumption between Scotland and England. Finally, Latcham (1985) by investigating temporal trends in several problem drinking indicators, has shown that levels of alcohol related problems are now probably of a similar magnitude in both countries. The sole exception to this finding is that of liver cirrhosis mortality rates, which are twice as great in Scotland. It has, however, been suggested that this discrepancy has occurred among other reasons, because of differences in certification practices (e.g. Duffy & Plant 1985).

Nevertheless, a definitive answer can only come from further research. A recent report by Breeze (1985) provides pertinent data. Two areas of England which were characterised by different rates of problem drinking were compared. These were the Mersey/Northern regional health authorities combined (high risk for problem drinking) and the Trent/East Anglian regional health authorities combined (low risk). The differences in rates of problem drinking were not as marked in the present study.

Contrary to the present findings, Breeze (1985) reported that, among males, weekly consumption levels were on average 6 units greater in the northern high risk area as compared to the southern low risk area. No significant differences were found among women. Comparisons of sub-populations of males from each area revealed that these differences were particularly evident among the young; those who were moderate*/heavy drinkers: and those who were resident in lower status areas (defined from census data in terms of general amenities).

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* The criterion for moderate drinking appears to have been inconsistently applied. On page 3 it was defined in terms of consuming 11-50 units in the past week, while on page 41 the range was 20-50 units. The criterion for heavy drinking mainly referred to those who consumed 51+ units last week. But it also included a small group of males who, though drinking less than 50 units, reported that they had been drunk three times in the past three months. This appears to be an arbitrary and subjective criterion.

It remains unclear why both studies should have produced such different findings. Breeze (1985) offered no interpretations of her data, and made no attempt to consider it within the context of the earlier literature mentioned in Chapter 4. Nor was any attention drawn to the relative importance (or otherwise) of the various socio-demographic measures by means of multiple regression analyses to predict consumption levels and consequences (see Chapter 9.9 for a discussion of such an analysis within the present study). Indeed, somewhat surprisingly for a survey commissioned by the Department of Health and Social Security, no comparisons were drawn between employed and unemployed persons in each area. The northern high risk area is also an area of high and continuing unemployment (unlike the southern area). Nor did Breeze (1985) consider the effects of differential reporting because of lying or memory loss between the two areas.

For these reasons it is difficult to draw comparisons between the two studies. The differences between the studies may have arisen simply by virtue of having selected different areas for study; by the differential operation of various biases (e.g. under-reporting); or because the present study compared areas with extreme differences in problem drinking rates while Breeze (1985) compared areas with less marked differences. As has been noted earlier, Furst and Beckman (1981) have observed that liver cirrhosis mortality statistics are less reliable for areas with small populations. It is possible that this unreliability may extend to other indicators of alcohol use and misuse.

10.1.5 The present high problem drinking rate in Highland region may reflect previous differences in drinking habits. In an earlier investigation Wilson (1980a) noted that despite the higher levels of problem drinking in Scotland compared to England and Wales, the proportion of heavy drinkers were almost identical. To account for this Wilson proposed that the disparities arose because of earlier differences in consumption patterns between the countries. But Duffy and Latcham (1986) in a recent investigation of liver cirrhosis trends between 1941-81 found no evidence of cohort effects between Scotland and England/Wales over that period. No such data were available for the three areas investigated in the present study. Nor did the study enquire into respondents earlier drinking patterns. Nevertheless, it was expected that earlier disparities in drinking would have resulted in higher rates of adverse consequences being reported by the older age groups in Highland region than in the other two areas. There was, however, little evidence of such an age disparity. But it should be noted that the consequence data referred only to the occurrence (not frequency) of a limited range of more or less acute social effects of heavy alcohol consumption during the previous two years.

10.1.6 Beverages are important (or, Highlanders develop more problems because they are predominantly spirit drinkers). Since antiquity there have existed complex and conflicting beliefs about beverage alcohol and its effects (e.g. O'Brien & Seller 1982). Moreover, different behavioural outcomes of alcohol consumption have long been associated with variation in beverage strength. For example, in 1812, Rush (reprinted in 1943) constructed a Moral and

Physical Thermometer, upon which the stronger drinks such as 'drams of gin, brandy and rum in the morning' were associated with intemperance (and in consequence the vices of "swindling" and "perjury") and the weaker drinks such as 'small beer' or 'milk and water' with temperance (and hence "serenity of mind, reputation, long life and happiness").

A recent study of Scottish children demonstrated that the differentiation of beverages by alcoholic strength is developed in childhood (Aitken 1978). Within that study, 10-14 year olds applied more severe moral judgments to children of their own age who drank spirits than to those who drank beer, lager, shandy or cider. There is also laboratory evidence that subjects who believe they have consumed spirits behave more aggressively than those who believe they have consumed beer (Pihl et al 1984).

Whisky is traditionally associated with 'power and victory' in Ireland and drunkenness in Scotland (see Chapter 5). Scotland is commonly regarded as a spirit drinking country (Simpura 1981), the majority of whiskies being distilled within the Highland Region. It is therefore conceivable that the higher rates of problem drinking in the Highlands are associated with strong preferences towards spirit drinking within that region. But the findings from this study confirms the observation by Simpura (1981) that Scottish males are predominantly beer drinkers, as are their English counterparts. Male Highlanders consumed significantly greater quantities of spirits than respondents in other areas (and hence a higher proportion of their intake), but the amounts involved were

relatively small when compared to beer consumption. It remains unclear whether area differences in beverage preferences adequately explain the large area differences in official indicators of alcohol related problems.

10.1.7 Highlanders react differently to alcohol regardless of its form. In other words, despite the fact that Highlanders consumed less alcohol than those elsewhere they may nevertheless have experienced more negative effects from doing so. An analysis of the occurrence (not frequency) of 10 acute social consequences experienced over the past two years revealed a number of area differences, particularly between males, in the number of respondents who experienced an adverse consequence. (The study did not investigate legal or medical complications.) But the significant differences mainly arose between respondents in Kent and those in Scotland irrespective of region. That is, Taysiders and Highlanders were generally equally and, hence most likely, to report each adverse consequence of drinking despite the fact that the former reported the greatest and the latter the lowest consumption levels. Male Highlanders also reported the greatest variety of consequences.

A number of explanations can be offered in support of this finding. In Chapter 2.3 it was noted that there are genetically determined differences in the metabolic effects of alcohol. Highlanders may therefore be genetically predisposed to react differently to alcohol than are respondents from other areas.

Alternatively, Highlanders may react differently to alcohol because of differences in culturally transmitted attitudes. This argument is rooted in earlier North American studies which have shown that the manifestations (Room 1972; Negrette 1973) and definitions (McKirnan 1977, 1978) of alcohol dependence vary between different cultural groups. Indeed Blaxter et al (1982) have demonstrated that native residents of the Western Isles perceive the magnitude of alcohol related problems in their community as being less than that observed by (largely incomer) health care professionals. There is also a considerable body of evidence documenting the effects of culturally determined expectations upon drunken comportment (Chapter 5.3.3). One might therefore propose that Highland region is similar to those rural and protestant communities in the USA which are generally disapproving of alcohol yet manifest higher problem drinking rates. It has been argued that such communities do not provide adequate norms for the development of moderate consumption patterns (Blacker 1966; Knupfer & Room 1967; Ullman 1968).

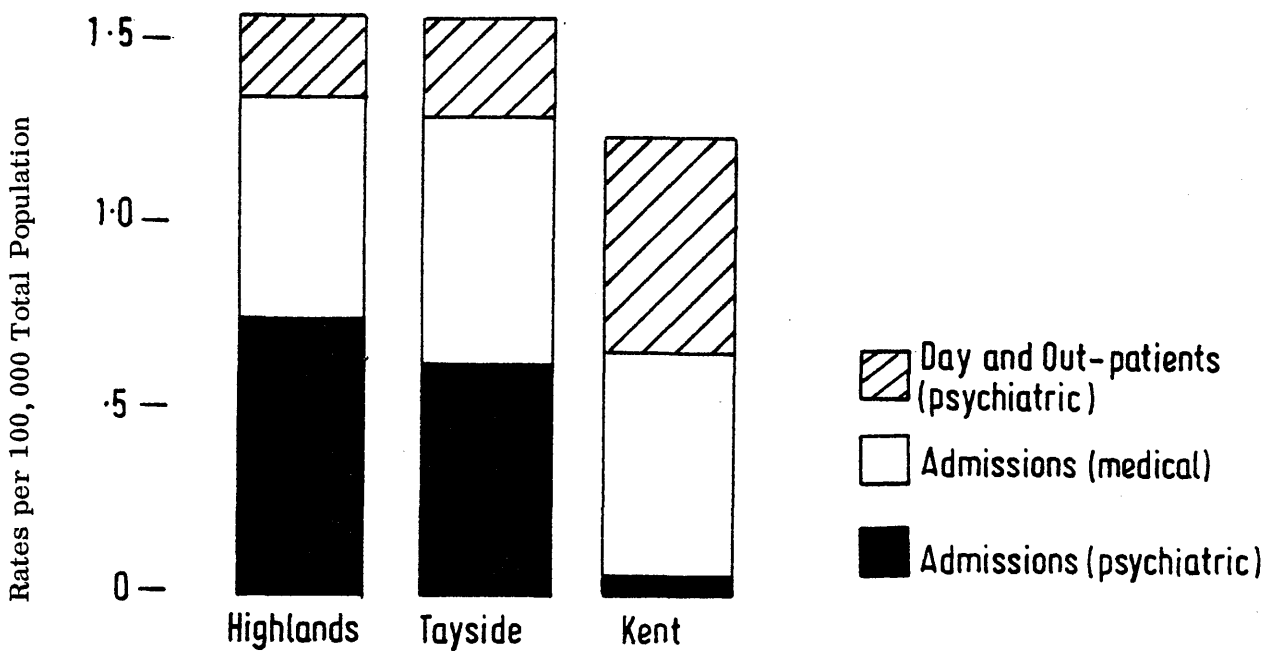
There is some evidence of culturally based differences in the reaction to alcohol between the three areas. The Scots, Highlanders especially, were more disapproving of drinking, but not of drunkenness. They were also more likely to have observed public drunkenness, to have known an 'alcoholic' (the term was not defined), and to be aware of local alcohol treatment services. This may indicate the existence of a self-fulfilling prophecy that Scots are problem drinkers. But the three areas did not, in the main, differ in expressed expectations concerning the emotional and

behavioural effects upon either self or others of the same sex and age. Moreover, though negative attitudes towards drinking and drunkenness were associated with lower consumption levels, there was no evidence of the relationships being especially pronounced within the Highlands. It is, however, possible that because of the above noted weaknesses in the consequence and attitudinal items (see Chapter 5.3.2) the measures were insufficiently sensitive to actual variations between the regions.

The final possibility is that the propensity towards increased alcohol related damage is the result of the action of one or more intervening variables which exacerbate the effects of alcohol. It has, for example, been shown that both poverty (Townsend 1979) and ill-health (Townsend & Davidson 1982) are greatest in northern areas of Britain. Regional variations in drinking problems may simply be another manifestation of this trend. Alternatively, Schoental (1980; 1984 personal communication; 1985) has suggested that the possible higher levels of contamination with poisonous mycotoxins of alcoholic drinks in the wetter and cooler parts of the British Isles may account for higher problem rates in these areas. Other potentially important intervening factors include diet, smoking, exercise (or its lack of), etc.

10.1.8. Regional variation in official statistics for problem drinking may be spurious. The survey described herein is but one of two investigations of the causes of the marked variation in officially recorded alcohol related problems which occur between three areas of Britain. The present study has eliminated the

possibility that the variation reflects differences in general population consumption levels. The second investigation (Latcham 1985) focused on area differences in first admissions to psychiatric beds of residents in each area for alcohol dependence, abuse and alcoholic psychosis (ICD9 291, 303, 305.0). This is a well established index of problem drinking. It was hypothesised that area differences would reflect differences in admission criteria between the areas. However, Latcham (1985) found that the twelvefold difference in psychiatric in-patient admission rates, which occurs between the Highlands and Kent (12.5:1), was virtually eliminated (1.53:1) when psychiatric out- and day-patient rates were added to in-patient rates (without double-counting) (Fig.7.1).



- Use of psychiatric and medical services in the three areas for alcoholism and alcoholic psychosis (1981) males and females.

Figure 7.1: Source; Latcham (1985)

In describing his findings Latcham (1985) concluded that "the low psychiatric admission rates in Kent are balanced partly by high rates of admission to medical beds, and to an even greater extent by attendances, at psychiatric day- and out-patients made possible by the lack of geographical constraints present in Scotland, and by the policy encouraged by the clinicians running the day unit in Canterbury" (p.138) and that "there is evidence from morbidity rates, both of cirrhosis and of alcohol dependence and abuse treated in general hospital beds, and from population surveys of alcohol consumption, that the rates of morbidity treated in psychiatric services reflects community morbidity due to alcohol in the three areas despite geographical differences. Psychiatric inpatient treatment rates alone do not" (p.145).

This finding strongly suggests that great care must be taken when interpreting problem drinking statistics. It has already been noted (Chapter 3.7; Latcham 1985) that such indices of harm are subject to many limitations. Indeed, they may be heavily influenced by non-alcohol-related factors. For example, it was shown in Chapter 4.3.3 that San Francisco's reputation as a hard drinking city was not substantiated from alcohol survey data (Room 1972). Indeed, the particularly high levels of per capita consumption (derived from sales figures) were explained in terms of among other things geopolitical constraints peculiar to the city. The high cirrhosis mortality rates appeared to reflect the particularly zealous activity of the Coroner's Office. Others have shown that arrest statistics for alcohol-related offences are heavily influenced by policing policy among other reasons (Bruun 1969;

Collins 1982; Saunders 1983; and see Chapter 2.4.3). There is also evidence that liver mortality statistics may become relatively unstable for communities (such as the Highlands) which have small populations (Furst & Beckman 1981). Finally, it has recently been observed that first admission rates between 1950-70 into mental hospitals in Switzerland due to "alcoholism or alcohol psychosis have been surprisingly stable ..... and do not, in any way, reflect the increase in average consumption" (Cahannes & Mueller 1981, p.77).

10.2 Implications and suggestions for future research

10.2.1 Regional variations in alcohol-related problems

Commenting upon the publication of statistics for 1981 relating to deaths from alcohol misuse, Gaskell (1983) wrote "So, the Scots have to be different! You would think that with such a small country .... they would be content to keep their health problems hidden among those of Great Britain as a whole. But no. In terms of weekly expenditure on drink, drunkenness offences, accident and personal injury, they have to have higher rates than the rest of Britain, while prosecutions for 'drink and driving' are twice as high as those for the whole country!.... whichever way the picture is viewed, the 'national' problem brings disease of 'disease' to every doctor in the country" (p.2).

The results of both the present and Latcham's (1985) companion investigations do not substantiate such a sweeping (and popular)

statement. Taken together both studies demonstrate that the three selected areas do not greatly differ in respect of drinking patterns, nor in the levels of alcohol-related problems. It is also apparent that one of the commonly employed indices, namely psychiatric inpatient admission rates for alcohol dependence (not mentioned in the above quote) is suspect. This finding underlines the necessity for caution when interpreting problem drinking statistics.

Further research is required to investigate whether these findings are also true for other areas of Britain. But consideration of recent British population surveys (see Figure 4.1) and of recent trends in problem rates (Latcham 1985) lends credence to the assertion that consumption patterns do not markedly differ between Scotland and England and Wales, though there is some admittedly limited evidence that the reactions to alcohol use and misuse may vary between these countries. There is also some evidence (Appendix A) that the effects of various biases upon self-reported consumption varies by area.

10.2.2. Policy Implications

One obvious implication of the findings from this and the companion survey is summed up in a recent British Medical Journal editorial which, commenting upon the

present findings* in the context of the need for an alcohol policy for England and Wales, wrote that "the excuse that Scotland's alcohol problems are appreciably worse than those south of the border is no longer valid" (Editorial, March 30 1985 p.953). Indeed, Latcham (1985) has indicated that partly as a result of his investigations, an expansion of services for alcohol dependence is already planned for Kent.

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* The editorial referred to the following publications arising from the project:

Latcham RW, Kreitman N, Plant MA & Crawford A (1984) Regional variations in British alcohol morbidity rates: a myth uncovered? I Clinical surveys. British Medical Journal, 289, 1341-1343.

Crawford A, Plant MA, Kreitman N & Latcham RW (1984) Regional variations in British alcohol morbidity rates: a myth uncovered? II Population surveys. British Medical Journal, 289, 1343-1345.

The present investigations also point to the need for renewed efforts by professionals to educate the public about the effects of excessive alcohol intake (see also section 10.2.3) and to offer methods by which safer drinker styles could be adopted. There would also appear to be a need for the services of such organisations as Drinkwatchers which seek to provide practical advice to develop safer drinking patterns to those persons who are concerned about their drinking levels but who are not alcohol-dependent. It may be necessary to tailor different campaigns for each region. Though a sizeable proportion of the population of each of the three areas not only admitted to exceeding daily safe drinking limits, but also to experiencing short-term adverse consequences from doing so, this was especially pronounced in Scotland. (Such an exercise - the "Drinkwise" week - was mounted by the Scottish Council on Alcohol in conjunction with the Scottish Health Education Group in Scotland during November 1985.)

There is growing evidence that the Scots have particularly unhealthy lifestyles in terms of exercise, diet, smoking. In other words, given that the drinking pattern of the Scots are not radically different from those of the English, this suggests that many of the alcohol-related problems in Scotland may be as much a result of their general life-styles as their drinking habits per se. There may therefore be some merit in orienting future alcohol educational efforts towards attaining healthier life styles rather than to simply reducing consumption.

10.2.3 Consumption and harm

It is well established that alcohol-related harm usually increases with alcohol consumption levels (see Chapter 1). Confirmation of this may be found in Chapter 9.1 which shows that the number of self-reported adverse consequences increased with consumption levels. But it was also demonstrated that, at least for the relatively limited range of short-term social complications from acute episodes considered in this study, exceeding daily safe drinking limits of 8 units (irrespective of whether respondents exceeded weekly safe limits) was particularly hazardous. This finding accords well with a previous finding that frequency of intoxicating episodes was associated with the experiencing of (largely social) adverse consequences in Scandinavia (Hauge & Irgens-Jensen 1984). Moreover, Knupfer (1984) has reported that frequency of consuming eight or more drinks on at least one occasion per week was associated with a greater likelihood of experiencing social disapproval and personal concern about alcohol use among US respondents. Future investigations should therefore consider the risk of experiencing any of a wider range of self-reported complications from drinking for respondents exceeding a variety of safe drinking limits.

10.2.4 Comparability between population surveys of alcohol consumption patterns

The majority of British population surveys have either employed Edwards et al's* (1972a) Q-F technique or the retrospective seven day diary method to investigate alcohol consumption patterns. The former investigates usual drinking behaviour over the previous 12 months before classifying respondents into one of six categories ranging from 'abstainer' to 'heavy drinker. The increasingly popular retrospective 7 day diary method provides a rich and complete record of alcohol consumption over the previous seven days. There have been few published works presenting data from both methods (Edwards et al 1972a; Wilson 1980b). Moreover, there is no consistency in the reporting of basic information from virtually identical data bases obtained from diary investigations (see Table 4.1). It is therefore recommended that agreement be sought and guidelines published concerning the presentation of data from diary surveys. Such an exercise would be of benefit to those who are new to alcohol survey research. It might even facilitate the resolution of some of the basic inconsistencies in the literature which were noted in Chapter 4.2.

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* Taken from Straus & Bacon (1953)

10.2.5. Investigations of the drinking patterns of population sub-groups

Social science is replete with investigations comparing the behaviours and attributes of persons distinguished in terms of various socio-demographic characteristics. So too is the alcohol literature (Chapter 4.2). Yet those few studies (including the present investigation - see Chapter 9.9) which have entered these socio-demographic variables into multiple-regression analyses to predict alcohol consumption patterns (Chapter 4.2.8), have generally demonstrated their low predictive power. Indeed, the analyses presented in Chapter 9.9 show that around 70% of the variance remained unexplained after employing these and other explanatory variables to predict drinking patterns. This suggests that there are either a few major but hitherto unknown factors waiting on the sidelines, or that the predictor variables are in themselves inadequate. It should be remembered that factors such as age, sex, social class etc are in fact simply higher order generalisations covering a myriad of finer distinctions between people. To say that one person is male and the other female, or that one is 60 years old while the other is 20, says very little (though there are many implied differences). This suggests that though concepts like age, sex etc may serve as useful shorthand terms they may be less than adequate when trying to fully explain differences in drinking behaviour. Future research should therefore be directed to exploring the combined effects of more fundamental explanatory variables e.g. weight, drinking styles etc.

10.2.6 Attitudes towards alcohol use and misuse

In Chapter 5 it was noted that the majority of surveys of attitudes towards alcohol use and misuse employed untested ad hoc questionnaires. The present survey is no exception. Though such questionnaires are designed to meet local needs, they generally do not permit other than simple comparisons with other surveys. Moreover, they generally fail to progress beyond reaffirming a somewhat weak association between attitudes and behaviour. The Alcohol Epidemiology Section (International Council on Alcohol and other Addictions), in seeking to establish a pool of attitudinal items, should aid the reviewing of future surveys. It seems likely, however, that the overall predictive power of consumption patterns by attitudes would be increased were future surveys to take heed of existing well-established attitude-behaviour models (eg Fishbein 1967). The utility of such models for predicting behaviour has already been demonstrated in a few alcohol surveys, and in a much larger body of general market research (see Chapter 5.3.2).

10.3 Conclusion

Three areas with widely differing rates of officially collated alcohol-related problems were compared in regard to alcohol use. It was concluded that the problem rate differences cannot be accounted for by variation in alcohol consumption levels and patterns in the general population. A number of alternative explanations were offered. It was suggested that official statistics for alcohol related problems can provide a misleading account of regional

variation in such problems within Britain, and should therefore be interpreted with caution. Policy implications are discussed.

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APPENDICES

A. Estimates of bias and error in the main survey

B. Comparison of respondents in main and follow-up surveys

C. Detailed breakdowns of response rate data from the main survey

D. Comparison of main survey and 1981 Census

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I. Questionnaire used in main survey

J. Questionnaire used in follow-up survey.

APPENDIX A : Estimates of bias and error in the main survey

The many forms of bias and error to which surveys of drinking habits are prone, are reviewed in Chapter 3.4. The purpose of this appendix is to consider the effects of several of these biases upon the present survey data.

A.1 Sampling errors

The sampling pool for the main survey was randomly selected from three areas of Britain. This raised the possibility that each selected sample was not truly representative of the total population of each area. To test for this sampling (or standard) error values were computed as a measure of the precision of each of the main consumption variables employed in the survey.

Briefly, it was assumed that the population mean scores for a particular variable (e.g. mean consumption in the past week) obtained from each of an indefinite series of sample populations drawn from the same total population (e.g. Highland region) were normally distributed (Moser & Kalton 1979; Hoinville et al 1982). A sampling error value is simply the standard deviation of the population mean scores and therefore shows "the amount by which the values for a given sample can be expected to differ from the true value for the total population" (Wilson 1980b, p.60).

The standard error values which are listed in Tables A1, A2 and A3 relate to consumption patterns in the past week and to adverse

consequences over the past two years. The Table shows that all of the mean scores lay within the 95% confidence intervals, and hence suggest that they are relatively accurate. Care must, however, be taken when interpreting these values. The values were obtained by using sampling error formulae for a simple random sample where, according to Wilson (1980b, p.61) :

(a) for a percentage, p,

$$\text{sampling error, s.e.} = \sqrt{\frac{p(100-p)}{n}}$$

(b) for a numerical variable,

$$\text{sampling error, s.e.} = \frac{\text{standard deviation}}{\sqrt{n}}$$

where n is the sample size.

The present study, however, employed a two-stage design (see Chapter 6.4). Hence application of the simple formulae were likely to lead to underestimations of true sampling errors; to suggest that the sample was more precise than it really was (Moser & Kalton 1979). Strictly speaking more complex formulae should have been employed to calculate the sampling errors for the multi-stage samples employed in this study (Kish & Hess 1959). However, to quote Wilson (1980b,p.61) this would "require excessive computation to use this formula for all of the results published in this report".

Wilson (1980b) in fact, reported that several test applications of the complex formulae in his survey of England and Wales provided sampling errors which were within 20% of the simple random sample estimates. It was suggested that "this probably stems from the primary sampling units

(constituencies) covering a broad geographical area so that the sample is almost equivalent to a simple random sample. It is therefore appropriate to use the formulae for a simple random sample to calculate sampling errors" (Wilson 1980b, p.61). It is likely that the same argument held for the present study.

	Mean	Standard Deviation	Sampling Error	95% Confidence Interval	Mean	Standard Deviation	Sampling Error	95% Confidence Interval
1. CONSUMPTION DATA (a,b)								
Total consumption	15.4	18.1	1.0	13.4-17.5	5.5	6.0	0.5	4.3- 6.5
Total consumption (all respondents)	9.9	16.3	0.7	8.5-11.4	2.1	4.6	0.3	1.6- 2.6
Heaviest drinking day	7.7	7.8	0.4	6.9- 8.6	3.3	3.0	0.3	2.8- 3.9
% consumed at weekend	67.4	35.0	2.0	63.4-71.3	75.0	33.9	3.1	69.4-81.5
Beer/lager/cider	8.4	13.1	0.7	6.9- 9.9	0.8	3.1	0.3	0.2- 1.3
Table/fortified wine	0.8	2.2	0.1	0.6- 1.1	2.1	3.5	0.3	1.5- 2.8
Spirits	6.1	11.1	0.6	4.9- 7.4	2.5	4.1	0.4	1.7- 3.2
Liqueurs	0.1	1.0	0.1	0- 0.2	0.1	0.4	0.03	0- 0.2
2. DRINKING TIMES (a)								
Number of drinking days	2.7	1.8	0.1	2.5- 2.9	1.9	1.6	0.1	1.7- 2.2
Number of drinking periods	3.2	2.6	0.2	2.9- 3.5	2.1	2.1	0.2	1.7- 2.5
Total drinking time (hours)	5.3	5.8	0.3	4.6- 6.0	3.2	3.5	0.3	2.6- 3.9
Length of drinking period (hours)	1.6	1.5	0.1	1.5- 1.8	1.6	1.2	0.1	1.4- 1.8
3. CONSUMPTION RATES (a)								
Units per hour	3.2	1.7	0.1	3.0- 3.4	1.9	1.2	0.1	1.7- 2.1
Units per drinking day	5.5	4.6	0.3	4.9- 6.0	2.8	2.3	0.2	2.4- 3.2
Units per drinking period	4.8	3.6	0.2	4.4- 5.2	2.7	2.3	0.2	2.3- 3.1
4. TOTAL ADVERSE CONSEQUENCES (c)	1.7	1.9	0.1	1.5- 1.8	0.8	1.3	0.1	0.6- 0.9

NOTE: a. In past 7 days: regular drinkers unless otherwise stated.
b. All consumption quantities are in units.
c. Over past 2 years.

TABLE A2: SAMPLING ERRORS IN MAJOR VARIABLES: TAYSIDE REGION.

	Mean	Standard Deviation	Sampling Error	95% Confidence Interval	Mean	Standard Deviation	Sampling Error	95% Confidence Interval
1. CONSUMPTION DATA (a,b)								
Total consumption	19.0	20.7	1.1	16.9-21.2	6.6	7.5	0.6	5.4- 7.8
Total consumption (all respondents)	14.0	19.7	0.9	12.3-15.8	3.3	6.2	0.3	2.6- 3.9
Heaviest drinking day	8.9	7.8	0.4	8.1- 9.7	3.9	3.6	0.3	3.3- 4.5
% consumed at weekend	66.0	31.9	1.7	62.7-69.3	70.7	36.4	2.9	65.0-76.4
Beer/lager/cider	14.1	18.7	1.0	12.1-16.0	1.5	5.5	0.4	0.6- 2.3
Table/fortified wine	0.7	2.2	0.1	0.5- 0.9	1.8	2.9	0.2	1.3- 2.3
Spirits	4.2	9.5	0.5	3.2- 5.2	3.1	4.9	0.4	2.3- 3.8
Liqueurs	0.1	0.8	0.04	0- 0.2	0.3	0.9	0.1	0.1- 0.4
2. DRINKING TIMES (a)								
Number of drinking days	3.0	1.8	0.1	2.8- 3.2	2.1	1.5	0.1	1.9- 2.4
Number of drinking periods	3.4	2.3	0.1	3.1- 3.6	2.2	1.6	0.1	2.0- 2.5
Total drinking time (hours)	6.5	8.1	0.4	5.7- 7.4	3.8	4.0	0.3	3.1- 4.4
Length of drinking period (hours)	1.8	1.7	0.1	1.7- 2.0	1.8	1.5	0.1	1.6- 2.0
3. CONSUMPTION RATES (a)								
Units per hour	3.2	1.6	0.1	3.0- 3.4	1.9	1.0	0.1	1.7- 2.1
Units per drinking day	6.3	5.2	0.3	5.7- 6.9	3.1	2.6	0.2	2.7- 3.5
Units per drinking period	5.7	4.4	0.2	5.2- 6.1	3.0	2.6	0.2	2.6- 3.4
4. TOTAL ADVERSE CONSEQUENCES (c)	1.5	1.7	0.1	1.3- 1.6	0.9	1.4	0.1	0.7- 1.0

NOTE: a. In past 7 days: regular drinkers unless otherwise stated.
b. All consumption quantities are in units.
c. Over past 2 years.

TABLE A3: SAMPLING ERRORS IN MAJOR VARIABLES : KENT.

	Mean	Standard Deviation	Sampling Error	95% Confidence Interval	Mean	Standard Deviation	Sampling Error	95% Confidence Interval
1. CONSUMPTION DATA (a,b)								
Total consumption	16.9	19.5	1.1	14.7-19.0	7.2	8.2	0.7	5.9- 8.6
Total consumption (all respondents)	11.9	18.0	0.9	10.2-13.6	3.6	6.8	0.4	2.8- 4.3
Heaviest drinking day	6.9	5.9	0.3	6.3- 7.6	3.2	2.7	0.2	2.8- 3.6
% consumed at weekend	63.9	31.5	1.8	60.4-67.4	66.2	34.0	2.8	60.7-71.7
Beer/lager/cider	12.7	16.8	1.0	10.8-14.6	1.8	5.2	0.4	1.0- 2.6
Table/fortified wine	2.3	6.8	0.4	1.5- 3.0	3.2	5.2	0.4	2.4- 4.1
Spirits	1.7	4.6	0.3	1.2- 2.2	1.8	4.7	0.4	1.1- 2.6
Liqueurs	0.2	1.3	0.1	0- 0.3	0.3	1.5	0.1	0.1- 0.6
2. DRINKING TIMES (a)								
Number of drinking days	3.2	2.0	0.1	3.0- 3.5	2.9	2.2	0.2	2.5- 3.2
Number of drinking periods	3.8	3.2	0.2	3.4- 4.1	3.4	3.0	0.2	2.9- 3.9
Total drinking time (hours)	6.0	7.3	0.4	5.2- 6.8	4.1	3.8	0.3	3.5- 4.7
Length of drinking period (hours)	1.6	1.1	0.1	1.4- 1.7	1.4	0.9	0.1	1.2- 1.5
3. CONSUMPTION RATES (a)								
Units per hour	3.0	1.7	0.1	2.8- 3.2	1.9	1.1	0.1	1.8- 2.1
Units per drinking day	4.9	3.7	0.2	4.4- 5.3	2.5	2.0	0.2	2.2- 2.8
Units per drinking period	4.4	3.2	0.2	4.0- 4.8	2.3	1.9	0.2	2.0- 2.6
4. TOTAL ADVERSE CONSEQUENCES (c)	1.1	1.5	0.1	0.9- 1.2	0.6	1.0	0.1	0.4- 0.7

NOTE: a. In past 7 days: regular drinkers unless otherwise stated.
b. All consumption quantities are in units.
c. Over past 2 years.

A.2 Memory loss

The effects of memory loss in several previous surveys has been evaluated by comparing consumption reported for yesterday with consumption in each of the remaining six days of the previous week (Pernanen 1974; Millwood & Mackay 1978; Wilson 1981). These analyses were based upon the assumption that there is total recall for the day prior to interview, and that any reduction found on the remaining days were largely the result of memory loss (Wilson 1981). The effects of increased under-reporting over that period were assumed to be small, though no justification was offered for this argument.

Tables A.4 and A.5 present data for the two estimates of memory loss which were employed by Wilson (1981). The reduction both in the numbers reporting a drink and total alcohol consumed over days 2 to 7 are comparable with those recorded in earlier investigations (Table A.6).

Nevertheless, it is clear from Tables A4 and A5 that there is considerable variation in the extent of memory loss. Firstly, on both measures memory loss is least in Kent. Indeed, respondents from Highland region showed particularly large 'deficits' in respect of the numbers reporting having a drink over days 2 to 7. Secondly, there is considerable variation by day of week with, for example, women of Kent reporting between 95-136.3% of the total alcohol consumed yesterday. Thirdly, with the exception of Kent, recall is greater among males than among females.

It should, however, be remembered that Tables A4 to A6 referred to aggregate data and not to memory loss within individuals. Also, the assumption that the reporting of yesterday is more accurate than for any of the remaining days of the week has not been empirically tested. No attention has, for example, been paid to the relative effects of over- as opposed to under-reporting on the above measures. Over-reporting may, for example, account for the fact that respondents from Kent frequently over-reported relative to yesterday. Alternatively the relatively poorer performance by the Scots generally may simply reflect sampling and consumption pattern differences with Kent. A higher proportion of Scots (Highlanders especially) were surveyed on Saturdays and Sundays than were persons from Kent (Table 7.3). In other words, respondents from the Highlands and Tayside were most likely to report that 'yesterday' was a Friday or Saturday. In Chapter 8 (Table 8.9) it was observed that the Scots reported a greater (but not statistically significant) proportion of their drinking at the weekend relative to Kent. This may serve to artificially increase both the numbers reporting drinking, and the total amount of alcohol consumed yesterday by respondents from north of the border (and hence artificially lower recall of consumption and drinking days.

Table A4: Memory loss in the past 7 days # 1: Numbers Reporting Having a Drink*

Sex	Area	Yesterday	Days ago						Average over days 2-7
			2	3	4	5	6	7	
1. Males + Females	Highland	100	67.8	69.3	75.1	75.6	64.9	74.6	71.2
	Tayside	100	84.3	85.6	90.7	86.9	80.5	73.3	83.6
	Kent	100	91.8	94.1	100.5	92.3	89.5	80.0	91.4
	All	100	81.7	83.4	89.1	85.2	78.7	75.9	82.3
2. Males	Highland	100	69.5	70.8	82.5	79.2	65.6	80.5	74.7
	Tayside	100	85.9	91.5	84.7	87.0	85.3	79.1	85.6
	Kent	100	92.3	96.8	98.1	92.3	85.8	75.5	90.1
	All	100	82.7	86.6	88.3	86.2	79.2	78.4	83.6
3. Females	Highland	100	62.7	64.7	52.9	64.7	62.7	56.9	60.8
	Tayside	100	79.7	67.8	108.5	86.4	66.1	55.9	77.5
	Kent	100	90.8	87.7	106.2	92.3	98.5	90.8	94.3
	All	100	78.9	74.3	91.4	82.3	77.1	69.1	78.9

* Calculated as number reporting having a drink as a percentage of yesterday

TABLE A5: MEMORY LOSS IN THE PAST 7 DAYS # 2: TOTAL ALCOHOL CONSUMED.*

	Sex	Area	Yesterday	Days ago 2	3	4	5	6	7	Average over days 2-7
1.	M + F	Highland	100	68.6	89.7	92.9	100.8	88.2	88.4	88.1
		Tayside	100	90.8	82.0	85.7	101.4	85.9	75.3	86.9
		Kent	100	100	101.2	105.3	103.8	103.4	84.1	99.6
		ALL	100	87.2	89.9	93.6	102.1	91.8	81.6	91.0
2.	Males	Highland	100	69.7	89.0	97.4	107.2	93.0	88.4	90.8
		Tayside	100	95.4	85.1	84.2	101.7	90.4	78.2	89.2
		Kent	100	99.4	102.3	99.0	99.5	97.9	78.6	96.1
		ALL	100	89.2	91.3	92.4	102.6	93.4	81.2	91.7
3.	Females	Highland	100	61.8	94.0	66.3	65.5	59.4	88.4	72.6
		Tayside	100	65.0	64.8	94.2	100.3	60.8	59.3	74.1
		Kent	100	103.8	95.0	142.4	129.4	136.3	116.0	120.5
		ALL	100	75.5	81.8	100.6	99.1	82.6	84.0	87.3

* Calculated as the reported consumption as a percentage of yesterday.

Table A6: Comparison of memory loss data from present survey with those from earlier surveys (sexes combined)

Authors	Area	Date	Size (N)	Average proportion reporting drinking on any day as a percentage of their reporting drinking yesterday (%)	Average consumption any day as a peroentage of average consumption yesterday (%)
Present study	Highland/ Tayside/ Kent	1982	2349	82	91
Wilson (1980)	England/	1978	1996	91	92
Millwood & Mackay (1978)*	Australia	1977	9888	85	83
Pernanen (1976)	Ontario (Canada)	1970	1508	84	Not available

* These data were based on averages over 6 days with interviews on Saturdays and Sundays combined into a single weekend figure. Wilson (1980) adjusted these over 7 days by assuming that the Saturday and Sunday interviews had the same distribution.

A.3 Deliberate under-reporting

There have been few empirical investigations of the magnitude of deliberate under-reporting in British alcohol surveys. Cooke & Allan (1983), by incorporating, a standard lie scale within their questionnaire, reported that dissimulation reduced total weekly alcohol consumption by 46-65% in their survey of Glasgow. Deliberate under-reporting was particularly pronounced among those who were male, young and employed. Moreover, under-reporting was directly related to reported level of consumption, with heavier drinkers being most likely to dissimulate.

Wilson (1981) argued that under-reporting would occur when respondents did not wish other household members to overhear self-descriptions of drinking practices. A re-analysis of his 1978 survey of England and Wales (Wilson 1980b), subsequently reported that weekly consumption as around 6% lower when interviews were conducted in the presence of another household member (Wilson 1981).

Duffy (1982) has, however, argued that the presence of another household member may have little influence upon under-reporting. It was argued that if a respondent did not wish to be seen to exceed socially desirable levels of consumption, the presence of another household member would exert little influence. Indeed, it was further argued that the presence of such a person who was familiar with the respondent's alcohol consumption patterns could serve to deter under-reporting.

Like the majority of British alcohol surveys the present study did not incorporate a lie scale within the questionnaire. The analysis presented on Table A.7 was therefore taken from Wilson (1981). The Table shows that there were neither main nor interaction effects for presence of a third party upon weekly alcohol consumption for respondents of either sex. Because the likelihood of being interviewed in the presence of another was greatest for married respondents, the analyses were repeated for such persons only. A statistically significant region x third party interaction was found for male respondents. Married males from Kent reported significantly more alcohol than those from the Highlands when interviewed alone, but not when in the presence of another person. In other words, this suggests that married males from Kent were more likely to deliberately under-report than were such men from the Highlands. No other statistically significant findings were obtained.

Table A7: Effect of presence of a third party upon total consumption in the past week

	Males							Females						
	Interviewed alone		Another present					Interviewed alone		Another present				
	$\bar{X}$	SD	$\bar{X}$	SD	F	df	p	$\bar{X}$	SD	$\bar{X}$	SD	F	df	P
1. All regular drinkers[1]														
Highland	15.5	18.7	15.5	17.7	0.4	1,960	NS	5.0	5.3	6.1	6.9	0.1	1,426	NS
Tayside	19.1	21.4	19.3	20.5	1.2	2,960	NS	6.3	7.4	6.7	7.4	2.6	2,426	NS
Kent	18.0	20.6	14.3	15.8				8.0	8.4	6.0	7.7			
All	17.6	20.3	16.8	18.6				6.6	7.4	6.3	7.3			
2. Married regular drinkers[1]														
Highland	12.7*	16.9	14.2	17.2				4.5	4.8	5.6	6.7			
Tayside	16.6*	14.7	17.7	18.7				5.9	5.5	5.8	4.6	0.3	1,309	NS
Kent	19.3	22.5	12.7	13.4	0.6	1,695	NS	7.8	6.4	6.2	8.5	1.9	2,309	NS
All	16.4	18.8	15.2	17.0	3.4	2,695	0.03	6.1	5.7	5.9	6.5			

[1] Analysed by 3(area) x 2(interview: alone vs in presence of 3rd party). Consumption data were square-root transformed for analysis. For each sex cells which significantly differ (Tukey HSD, α = 0.05 or 0.01) are flagged with same indicator.

A.4 Non-response

Various authors have argued that eligible persons who do not participate in alcohol surveys are particularly likely to be heavy drinkers (see Chapter 3.4.2). One might therefore predict that non-respondents in Highland region drink more than similar persons elsewhere, thereby accounting for the regional variations in problem drinking rates. This possibility was investigated in two ways. Firstly, a sub-sample of non-respondents were briefly interviewed about their consumption patterns during a follow-up survey (see Appendix B).

The second approach, which is the subject of the analysis presented in Table A.8, was taken from Wilson (1981) who argued that respondents who were difficult to contact (i.e. required 4+ calls to achieve interview) were similar to non-respondents. By so doing, it was found that, in his survey of England and Wales, respondents who were difficult to contact consumed 17% more alcohol in the past week than other respondents, after controlling for sex. Duffy (1982,p.4), however, has argued that this assumption, if used to justify correction for non-response "ignores such reasons for non-contact as death and removal unknown to the interviewer and neighbours".

Despite the crudeness of these measures, Wilson's (1981) analysis was applied to the present survey. Table A.8 shows that, irrespective of region, male respondents who were difficult to contact consumed on average 23.8% more than other males, this difference being statistically significant. The table also shows a significant region x "difficult to contact" interaction for females. No relevant statistically significant

differences between means were found when the data were further analysed by application of the Tukey HSD test. However inspection of the data reveals that whereas difficult-to-contact females who were resident in both Scottish areas consumed less than women who were easy to contact, the reverse was true for women of Kent.

Table A8: Weekly consumption by respondents who were easy (1-3 calls) or difficult (4+ calls) to contact

	Calls to achieve interview								
	1-3			4+			Level of significance		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	F	df	p
Males									
Highland	15.5	18.4	285	14.3	13.2	24			
Tayside	18.5	20.7	325	24.2	21.0	36	5.2	1,978	0.02
Kent	16.3	19.3	277	22.0	19.9	32	1.0	2,978	NS
All	16.8	19.6	887	20.8	19.1	92			
Females									
Highland	5.5	6.2	114	4.9	4.3	7			
Tayside	6.8	7.8	137	5.3	5.4	19	0.9	1,425	NS
Kent	6.9	8.4	135	10.6	5.0	14	3.4	2,425	0.03
All	6.5	7.6	386	7.1	5.6	40			

Data square root transformed for analysis

A.5 Interviewer effects

Various studies have shown that interviewer characteristics and behaviours can exert considerable influences upon self-reported consumption in alcohol surveys (Chapter 3.4.3.2). Several North American Q-F surveys have, for example, reported that lower consumption levels were found when male respondents were interviewed by females (Kirsh et al 1965; Cosper 1969) or when interviewers were light or infrequent drinkers (Cosper 1969). The possible influence of interviewer consumption patterns were therefore investigated in the present study. In all 55 women interviewers were employed in the present study. Shortly after completing data collection, each interviewer was sent a brief note describing the possible interviewer effects upon reported consumption patterns of respondents. Each was asked to complete, in confidence, a questionnaire containing two items:

a) Do you drink alcohol?

b) How often do you have a drink containing alcohol?
(Interviewers selected 1 of 9 options).

Of the 55 women 13 either refused to complete the questionnaire or did not reply. Data relating to frequency of alcohol consumption by interviewers are presented on Table A.9, which shows that the majority of women who replied were drinkers. To test for interviewer effects upon respondent consumption patterns two separate analyses were performed. The first considered the proportion of respondents who reported that they were drinkers. Table A.10 reveals that respondents who usually drink on a weekly basis are less likely to report male abstainers and more likely

to pick out those who are regular drinkers. No significant differences were found among females. Nor were significant differences found after controlling for region of residence (data not presented).

The second analysis considered total alcohol consumed in the past week (square-root transformed) by regular drinkers. Table A.11 confirms earlier findings (and assumptions) that there were statistically significant regional and sex differences in consumption levels. There was also a near significant ($p=0.06$) interviewer effect. Further inspection of Table A.11 reveals a tendency towards interviewers who were ocasional drinkers obtaining lower consumption levels than those who were either regular drinkers or who refused to divulge their drinking habits. There were no statistically significant two- or three-way interactions between interviewer consumption patterns, respondent sex, or region of residence.

'ABLE A9 : Frequency of consumption of alcohol by interviewers

Frequency of consumption	N
Almost every day	1
3 or 4 times a week	4
1 or 2 times a week	18
About once a fortnight	8
Once a month	4
Every 3 or 4 months	1
About twice a year	0
About once a year	1
Occasional *	2
Abstainer	3
Refused	13
BASE	55

* additional category supplied by interviewer

TABLE A.10: EFFECTS OF INTERVIEWER CONSUMPTION PATTERNS UPON REPORTED CONSUMPTION PATTERNS OF RESPONDENTS (WHOLE SAMPLE)

	Weekly Drinker	Drinking Less than Weekly	Refusal	x^2	df	p
Male respondents (%)						
Abstainer	1.5	4.1	5.6	16.6	4	0.002
Occasional drinker	24.7	29.5	26.6			
Regular drinker	73.8	66.4	67.7			
BASE	596	491	319			
Female respondents (%)						
Abstainer	7.7	12	11.6	5.2	4	NS
Occasional drinker	45	44.3	39.7			
Regular drinker	47.3	43.7	48.7			
BASE	389	343	199			

TABLE A11: EFFECT OF INTERVIEWER DRINKING HABITS UPON SELF-REPORTED WEEKLY CONSUMPTION BY RESPONDENTS OF EITHER SEX IN EACH AREA

Interviewer drinking habits	Respondent Sex	Total consumption last week (units) Highland $\bar{X}$	Highland SD	Tayside $\bar{X}$	Tayside SD	Kent $\bar{X}$	Kent SD	H+T+K $\bar{X}$	H+T+K SD	Level of Significance [1]
Regular drinker	M	15.7	18.8	19.6	22.0	16.8	21.5	18.0	21.1	I: F(2,1407)= 2.8, NS
	F	4.1	3.9	6.9	8.1	8.3	8.7	6.6	7.6	S: F(1,1407)= 183.1, <0.001
										A: F(2,1407)= 3.9, 0.02
Occasional drinker	M	14.9	18.2	15.9	16.7	15.1	16.9	15.1	17.3	IxS: F(2,1407)= 0.7,NS
	F	6.0	6.6	5.9	5.9	6.3	7.3	6.1	6.8	IxA: F(4,1407)= 0.4,NS
										SxA: F(2,1407)= 0.6, NS
Refused [2]	M	16.0	16.6	19.1	18.2	20.4	22.0	18.7	19.3	IxSxA: F(4,1407)= 1.0,NS
	F	6.3	7.1	6.5	6.8	7.9	9.5	6.9	7.8	

1. Data square-root transformed for 3 (area) x 3 (interviewer drinking habits) x2 (respondent sex) ANOVA. Where I= interviewer effect; S= respondent sex effect; A= area of residence effect; IxS, IxA, SxA., IxSxA= interaction

2. Includes refusals and non-returns.

A.6 Comparisons of per capita consumption figures with Customs and Excise figures

The coverage of a general population survey of alcohol consumption is measured by comparing per capita consumption for that survey with similar figures from Customs and Excise records (see Chapter 3.5). The value obtained, which is calculated by dividing the former to the latter, is taken as a measure of the validity of the survey. Coverage figures for all beverages combined generally range between 32-85% (Pernanen 1974). Considerable variations are typically found between different beverages.

Table A.12 depicts coverage figures by beverage and region for the present study. The per capita consumption figures comprise the mean alcohol consumption for all respondents (aged 18 and over) irrespective of whether they were abstainers, occasional or regular drinkers. The Customs & Excise figures were calculated from data published in the UK Statistical Handbook of the Brewers' Society (1983 edition) which was based upon adults aged 15 and over. No attempt was made to adjust for age, or for inaccuracies in Excise data because of tourism etc (see Chapter 3.5). These inaccuracies serve to artificially inflate Excise figures.

The table shows that coverage for all alcohol consumed ranged between 43.7% (Highlands) and 62.8% (Tayside). These figures are comparable with those obtained in previous studies (Pernanen 1974; Wilson 1980b). The coverage of specific beverages varied between the regions. Only spirits achieved high coverage in the Highlands; while beer and

spirits achieved high coverage in Tayside; and beer and wine (especially) attained high coverage in Kent.

Table A12: Comparison of consumption in standard units (a) reported in the survey with Customs and Excise figures for 1982

	Highland		Tayside		Kent		H + T + K		per capita Consumption (d)
	Survey (c)	Coverage (b)	Survey	Coverage	Survey	Coverage	Survey	Coverage	
Beer	3.36	34.6	6.57	67.7	5.67	58.5	5.2	53.6	9.7
Table & fortified wine	0.64	33.2	0.66	34.2	1.6	82.9	0.95	49.2	1.93
Spirits	2.76	69.5	2.47	62.2	1.08	27.2	2.13	77.2	3.97
Total alcohol consumed	6.81	43.7	9.79	62.8	8.48	54.4	8.37	53.7	15.6

(a) 1 standard unit = $\frac{1}{2}$ pint beer or cider, = 1/6 gill spirits in England, 1/5 gill in Scotland, = 4.5 fl.oz table wine, = 2 fl.oz fortified wine

(b) Derived from Customs and Excise figures for males aged 15+

(c) Based upon adults aged 18+

(d) Coverage calculated as $\frac{\text{per capita consumption from survey}}{\text{per capita consumption from Excise data}} \times 100\%$

Summary

The preceding sections of this appendix considered the effects of various biases upon alcohol consumption during the past week. It was found that the various biases exerted differential effects by area and by respondent sex. However, various reservations were expressed about these measures.

APPENDIX B: FOLLOW-UP SURVEY OF PERSONS NOT AVAILABLE DURING THE MAIN SURVEY PERIOD.

Though it is commonly argued that heavier drinkers are not only harder to locate, but are also less likely to agree to participate in alcohol surveys (e.g. Pernanen 1974), the empirical evidence is inconclusive (see Chapter 3.4.2.). Given this uncertainty, and given the modest response rate (69%) to the main survey, a follow-up enquiry of a sub-sample of non-participants was made. Data were separately analysed by sex.

METHODS

Sampling procedure, data collection and response rate.

552 persons (379 males, 159 females, 14 unknown) were either 'never available' or 'not in' during the main survey period. A two stage procedure was devised to randomly select 1 in 4 persons from this non-participant group. Their names were sorted by region and sub-group before randomly selecting every fourth name after an individual who was randomly chosen as the start point. By this method 132 persons were selected for interview (Tables B.1 & B.2).

To avoid confounding alcohol consumption data by seasonal and holiday variations, data were not collected until approximately 6 months after the main survey. On 13th April 1983, all 132 persons were posted a brief explanation of the survey, a questionnaire, and a stamped and addressed envelope (see Appendix H). Reminders and repeat questionnaires were posted 2 weeks later. A further 2 weeks later those persons who had not replied and who were listed on a directory were telephone interviewed. These interviews were conducted by an interviewer who was hired and trained by the author.

83 completed questionnaires were obtained giving an effective response rate of 65.4%. (Table B.1). This figure compares well with response rates typically obtained in combined postal/telephone surveys (Moser & Kalton 1979; Schuckit 1985).

The Questionnaire

A simple and easily completed questionnaire was designed in order to maximise responding. Accordingly 8 questions (containing 13 parts in all) were targeted towards gathering information in respect of socio-demographic variables, frequency of drinking in the past year, and consumption during the last drinking day (see Appendix J). The questions were derived both from the main survey instrument (see Appendix I), and from an earlier self-completion questionnaire employed in a study of Lothian teenagers (Plant et al 1985a,b).

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* Because of an administrative mix-up 532 and not 552 persons were classified as not available/never in during the main survey period.

RESULTS

Socio-demographic details

Women in the follow-up survey were significantly more likely to be in employment and to be non-manual workers than were women in the main survey (Table B.3). These findings are, however, limited by the small cell Ns in the former group. No other statistically significant differences by survey were found between respondents of either sex. There was, however, a non-significant trend towards respondents in the main survey being most likely to be married. Moreover, males in the main survey were slightly more likely to report that they were head of household. A slight trend in the opposite direction was found among females.

Consumption details

Table B.4 shows that respondents in the main survey consumed more alcohol on their last drinking day than did those in the follow-up survey. These differences achieved statistical significance for males only. No other statistically significant differences were found. There were weak trends towards males in the follow-up survey being more likely to be regular drinkers, and to generally drink on a weekly basis. Females in the follow-up survey tended to be less likely to abstain, and more likely to drink on a weekly basis and to spend more days drinking in the past week.

DISCUSSION

The aim of this study was to follow-up persons who were selected for a population survey of alcohol consumption practices, but who were not available/never in during the sampling period. To this end, a one in four sample of non-participants were invited to self-complete a brief interview schedule as part of a postal (and in a few instances, telephone) survey conducted 6 months later. Socio-demographic and alcohol consumption data from both surveys were compared.

Clearly the methodological differences limit the comparability of both data sets. Nevertheless, the study shows that those who participated in the original survey consumed more during their last drinking day than did those people who were then unavailable. But the main finding is that respondents and non-respondents from the original survey did not greatly differ in either their socio-demographic characteristics or in their consumption patterns. The findings from this study therefore provide some support for the contention that low-moderate rates of response to British alcohol surveys need not invalidate their conclusion (Chapter 7). Nevertheless, a more definitive test of this assertion can only come from a more extensive investigation of non-participants to alcohol surveys.

TABLE B.1: RATE OF RESPONSE TO FOLLOW-UP SURVEY.

	Highland		Tayside		Kent		Total	
	N	%	N	%	N	%	N	%
Names issued (N)								
Male	32		32		28		92	
Female	12		12		16		40	
Moved (M)	2		1		2		5	
Total eligible names (N-M)	42	100	43	100	42	100	127	100
refusals	2	4.8	1	2.3	4	9.5	7	5.5
non-returns	15	35.7	9	20.9	13	30.9	37	29.1
Interviews	25	59.5	33	76.7	25	59.5	83	65.4
1st postal survey	12		16		14		42	
2nd postal survey	9		12		10		31	
Telephone survey	4		5		1		10	

TABLE B.2: SEX COMPOSITION OF EACH SURVEY

	MALES			FEMALES		
	Highland	Tayside	Kent	Highland	Tayside	Kent
	N	N	N	N	N	N
Main survey	481	491	439	317	319	302
Follow-up Survey	15	23	17	10	10	8
First postal	7	9	11	5	7	3
Second postal	5	9	5	4	3	5
Telephone	3	5	1	1	0	0

TABLE B3: Socio-demographic details of respondents in main and follow-up surveys.

	MALES		FEMALES		
	Main survey %	Follow-up survey %	Main survey %	Follow-up survey %	Level of significance
Economic activity status (1)					
Employed	70.3	69.2	41.6	62.5	
Unemployed	6.6	9.6	1.8	0	M:x^2 =0.8,df=2, NS
Economically inactive	23.1	21.2	56.6	37.5	F:x^2=4.2,df=1,p=0.04
BASE	1403	52	935	24	
Social class(2)					
Non-manual	40.9	50.0	63.2	87.5	M:x^2=1.4,df=1, NS
Manual	59.1	50.0	36.8	12.5	F:x^2 =4.0,df=1, p=0.05
BASE	996	42	391	16	
Marital status					
Married	71.8	62.7	65.3	54.2	M:x^2=2.0,df=1, NS
Single/widowed/ divorced	28.2	37.3	34.7	45.8	F:x^2=1.3,df=1, NS
BASE	1405	51	937	24	
Status in Household					
Head	83.3	74.5	24.5	33.3	M:x^2=2.7,df=1, NS
Not Head	16.7	25.5	75.5	66.7	F:x^2=1.0,df=1, NS
BASE	1407	51	937	24	

(1) Unemployed and economically inactive females combined for analysis.
(2) Registrar General's Classification.

TABLE B4: Drinking practices of respondents in main and follow-up surveys

	MALES		FEMALES		
	Main Survey	Follow-up Survey	Main Survey	Follow-up Survey	Level of Significance
1.ALL Respondents					
a) Category of Drinker (%)					
Abstainer	3.4	5.5	10.2	3.8	M: x^2= 4.4, df=2,NS
Occasional	26.7	14.5	43.5	46.2	F: x^2= 1.1, df=2,NS
Regular	69.8	80.0	46.3	50.0	
BASE	1406	55	931	26	
2. ALL DRINKERS					
a) Frequency of consumption (%)					
At least weekly	67.8	73.1	38.0	46.2	M: x^2= 0.6,df=1,NS
Less than weekly	32.2	26.9	62.0	53.8	F: x^2= 0.7,df=1,NS
BASE	1360	52	841	26	
b) Amount consumed last drinking day (units)					
$\bar{x}$	4.8	3.4	2.4	1.7	M: t=2.0,df=1403,p=0.05
S.D.	5.2	3.4	2.4	1.1	F: t=1.5,df=854,NS
BASE	1351	54	829	27	
3. REGULAR DRINKERS					
a) Amount consumed last drinking day (units)					
$\bar{x}$	5.4	3.8	2.7	2.2	M: t=2.1,df=1021,p=0.04
S.D.	5.1	3.6	2.6	1.4	F: t=0.8,df=439,NS
BASE	979	44	428	13	
b) Days drinking in past week					
$\bar{x}$	3.0	3.1	2.3	3.2	M: t=0.3, df=1024,NS
S.D.	1.9	2.2	1.8	2.0	F: t=1.6,df=442,NS
BASE	982	44	431	13	

APPENDIX C : Detailed breakdowns of response rate data from the main survey

The tables presented in this appendix provide a more detailed breakdown of the information presented in Table 7.1 from Chapter 7 in the main text. The seven tables comprising this appendix summarise the data at different levels:

Table C1: which presents data for all respondents is an expanded version of Table 7.1 from the main text, and

Table C2: further breaks down this data by sex.

The remaining tables consider particular aspects of Tables C1 and C2, i.e.

Table C3: considers 'ineligibles' by region and sex

Table C4: considers 'non-contacts' by region and sex

Table C5: considers 'refusals' by region and sex

Table C6: considers 'not possibles' by region and sex

Table C7: considers 'other' reason for non response by region and sex.

The final section of this appendix lists some of the comments written upon contact sheets by interviewers.

TABLE C1: RESPONSE DATA BY REGION

	Highland		Tayside		Kent		Total	
	N	%	N	%	N	%	N	%
Names issued	1196		1199		1182		3577	
ineligible names: *	148		164		144		456	
dead	13		18		19		50	
moved	88		102		98		288	
home empty/demolished	40		38		15		93	
other (includes 17 year olds)	7		4		12		25	
non electors	85		117		81		283	
total eligible names	1133		1152		1119		34	
non contacts: *	203	17.9	178	15.4	171	15.3	552	16.2
never in	71		81		63		215	
in hospital/home	14		7		10		31	
not available	118		90		98		306	
refusals: *	89	7.8	137	11.9	124	11.1	350	10.3
against surveys in general	10		10		5		25	
against present survey	17		11		12		40	
invasion of privacy	7		14		6		27	
other reasons	26		49		50		125	
refusal	29		53		51		133	
not possibles: *	25	2.2	9	0.8	48	4.3	82	2.4
senile	8		-		10		18	
ill/incapacitated	17		8		38		63	
no English spoken	-		1		-		1	
other *	8		12		2		22	0.6
contact sheets not returned							49	1.4
Interviews							2349	69.0
complete	794	70.1	805	69.9	731	65.3	2330	68.4
partial	4	0.4	5	0.4	10	0.9	19	0.6

* includes cases where sex of respondent is unknown

TABLE C2: NON INTERVIEWS BY REGION AND BY SEX

		Highland			Tayside			Kent		
		male %	female %	total %	male %	female %	total %	male %	female %	total %
A.	Ineligibles:									
	dead	12.4	3.8	8.8	12.5	12.5	11.3	15.3	8.0	13.5
	moved	58.4	61.5	60.0	65.6	62.5	63.8	70.6	76.0	69.5
	home empty/demolished	27.0	30.8	27.9	21.9	25.0	23.8	10.6	12.0	10.6
	other	0.2	3.8	3.4	-	-	1.3	3.5	4.0	6.4
	N =	90	52	148	99	49	164	86	50	142
B.	Non contacts:									
	never in	35.2	35.0	35.0	43.2	42.8	45.5	34.8	42.1	36.8
	in hospital/home	5.6	10.0	6.9	4.0	4.8	3.9	4.5	7.0	5.8
	not available	59.2	55.0	58.1	52.8	52.4	50.6	60.7	50.9	57.3
	N =	142	60	203	125	42	178	112	57	171
C.	Refusals									
	against surveys in general	15.8	3.4	11.2	7.4	8.2	7.3	4.2	2.3	4.0
	against present survey	15.8	27.6	19.1	11.1	4.1	8.0	7.0	16.3	9.6
	invasion of privacy	8.8	6.9	7.9	7.4	16.3	10.2	7.0	2.3	4.8
	other reasons	22.8	34.5	29.2	39.5	28.6	35.8	38.0	41.9	40.3
	refused	36.8	27.8	32.6	34.6	42.9	38.7	43.7	37.2	41.1
	N =	57	29	89	81	49	137	71	43	124
D.	Not possibles									
	senile	28.6	44.4	32.0	-	-	-	20.0	26.1	20.8
	ill/incapacitated	71.4	55.5	68	100	100	88.9	80	73.9	79.2
	no English spoken	-	-	-	-	-	11.1	-	-	-
	N =	14	9	25	4	4	9	20	23	48
E.	Other N =	3	3	2	8	1	3	1	1	-

TABLE C3: INELIGIBLES BY REGION AND BY SEX

	Highland			Tayside			Kent		
	males N	females N	unknown N	males N	females N	unknown N	males N	females N	unknown N
dead	11	2	-	12	6	-	13	4	2
moved	52	32	4	63	30	9	60	38	-
home empty/demolished	24	16	-	21	12	5	9	6	-
other:	2	2	2	-	-	2	4	3	4
moved or dead	-	-	-	-	-	-	1	-	-
holiday home	2	2	1	-	-	-	2	-	1
pub	-	-	-	-	-	-	1	1	-
old folk's home	-	-	-	-	-	-	-	1	3
bedsitter	-	-	-	-	-	2	-	-	-
hotel	-	-	-	-	-	-	-	1	-
salmon fisheries office	-	-	1	-	-	-	-	-	-
TOTAL	89	52	6	96	48	16	86	51	6

TABLE C 4: NONCONTACTS BY REGION AND BY SEX

		Highland			Tayside			Kent		
		males	females	unknown	males	females	unknown	males	females	unknown
		N	N	N	N	N	N	N	N	N
1.	Never in	50	21	-	54	18	9	39	24	-
2.	In hospital/home	8	6	-	5	2	-	5	4	1
3.	Not available:	84	33	1	66	22	2	68	29	1
	a) Away:	51	20	1	43	16	-	39	16	-
	Holiday	14	10	-	17	6	-	15	10	-
	College/university	1	1	-	-	-	-	2	1	-
	Abroad	6	2	-	1	2	-	1	1	-
	With family/friends	-	1	-	-	3	-	1	1	-
	On business	1	-	-	3	-	-	3	-	-
	At sea	3	-	-	1	-	-	1	-	-
	Works in other area	11	1	-	10	2	-	3	1	-
	With armed forces	4	-	-	5	-	-	6	-	-
	Away	11	5	1	6	3	-	7	2	-
	b) At work (shifts/long hours)	7	-	-	3	1	-	10	4	-
	c) Couldn't get access to estate	-	1	-	-	-	-	1	-	-
	d) Not available:	26	12	-	20	5	2	18	9	1
	Gone out/never at home	6	1	-	8	1	-	5	1	-
	Not available	8	8	-	10	4	2	8	6	1
	No reason recorded	12	3	-	2	-	-	5	2	-

		Highland			Tayside			Kent		
		male N	female N	unknown N	male N	female N	unknown N	male N	female N	unknown N
A.	Against surveys in general	9	1	-	6	4	-	3	1	1
	against surveys/market research	8	-	-	6	3	-	3	1	1
	spouse against surveys	-	1	-	-	-	-	-	-	-
	doesn't answer questions at the door	-	-	-	-	1	-	-	-	-
	works in security firm and pledged he would not take part in surveys	1	-	-	-	-	-	-	-	-
B.	Against present survey	9	8	-	9	2	-	5	7	-
	doesn't see point of the survey	1	-	-	-	-	-	3	-	-
	thinks the survey is rubbish	1	-	-	2	-	-	-	-	-
	survey questions silly/irrelevant	-	-	-	3	-	-	-	-	-
	doesn't want to talk about alcohol	3	3	-	-	-	-	-	-	-
	couldn't cope with questionnaire	-	-	-	-	-	-	-	3	-
	has drink problem and would therefore prefer not to talk about alcohol	-	1	-	-	-	-	-	-	-
	doesn't know much about alcohol therefore not interested (abstainer)	2	4	-	1	1	-	1	2	-
	waste of ratepayers' money	2	-	-	2	-	-	-	-	-
	university could do better things with their time	-	-	-	-	-	-	1	-	-
	doesn't like Edinburgh university	-	-	-	-	1	-	-	-	-
	should have employed Scottish marketing agency	-	-	-	1	-	-	-	-	-
	thought survey was illegal	-	-	-	-	-	-	-	1	-
	thought interviewer was joking	-	-	-	-	-	-	-	1	-

	Highland			Tayside			Kent		
	male	female	unknown	male	female	unknown	male	female	unknown
	N	N	N	N	N	N	N	N	N
C. Invasion of privacy	5	2	-	6	8	-	5	1	-
invasion of privacy	2	-	-	1	2	-	1	1	-
drinking is own business	2	-	-	1	-	-	2	-	-
too many people come to door	-	-	-	-	1	-	-	-	-
been surveyed before	-	2	-	3	4	-	-	-	-
won't go on computer	-	-	-	-	-	-	1	-	-
too personal	-	-	-	1	-	-	1	-	-
afraid giving information would lead to burglary	-	-	-	-	1	-	-	-	-
against southern university prying into their affairs. They can look after themselves.	1	-	-	-	-	-	-	-	-
D. Other reasons	13	10	3	32	14	3	27	18	5
not interested	7	3	2	9	7	-	14	10	5
too busy	6	4	1	12	7	1	12	4	-
had guests	-	1	-	-	-	-	-	1	-
was intoxicated	-	1	-	1	-	-	-	-	-
too shy	-	-	-	1	-	-	-	-	-
family bereavement	-	-	-	3	-	-	-	2	-
won't take place of dead man (named elector dead)	-	-	-	-	-	1	-	-	-
can't be bothered (mainly because too old)	-	1	-	6	-	1	1	1	-

	Highland			Tayside			Kent		
	male N	female N	unknown N	male N	female N	unknown N	male N	female N	unknown N
E. Refusal	21	8	-	28	21	4	31	16	4
refused	21	7	-	26	21	4	30	16	4
family member refused on their behalf	-	1	-	2	-	-	-	-	-
wife wouldn't let him	-	-	-	-	-	-	1	-	-

	Highland			Tayside			Kent		
	males N	females N	unknown N	males N	females N	unknown N	males N	females N	unknown N
senile	4	4	-	-	-	-	4	6	-
too ill/incapacitated	10	5	2	4	4	-	16	17	5
no English spoken	-	-	-	-	-	1	-	-	-

TABLE C7: 'OTHER' REASONS FOR NON RESPONSE BY REGION AND BY SEX

	Highland			Tayside			Kent		
	males N	females N	unknown N	males N	females N	unknown N	males N	females N	unknown N
reason unknown	1	-	1	-	-	1	-	-	-
ran out of questionnaires	-	1	-	-	-	-	-	-	-
orders from London	-	-	-	3	1	-	-	-	-
elector already interviewed at address	-	-	-	1	-	-	-	-	-
because interview with elector was so unpleasant, was afraid to ask about non-electors	-	-	-	-	-	1	-	-	-
could not find address	2	2	1	4	-	1	-	1	-
respondent is a publican	-	-	-	-	-	-	1	-	-

THE JOYS OF BEING AN INTERVIEWER *

(comments by interviewers on non-contact sheets)

"I do not drink for one reason only - the 90% duty on alcohol. I also consider it to be a stupid subject for Edinburgh University to have a survey on. That's all I'm willing to say."

"too busy harvesting"

"would not come to door (mother says he is very shy and will not talk to strangers on any condition")

"Birds have moved"

"We don't want some university from the south asking us about alcohol. We look after our own affairs up here!!"

"Policeman has moved on"

"not interested. Rude"

"gone to Cat-man-do"

"3 + 1 at shop = 4?"

"said not at all interested. Wouldn't like her attitude."

"refused to take part - strange lady"

"don't bother me. Don't call again. Get someone else." Slammed door.

"On reading letter said did not want anything to do with police. I tried to explain that this was not possible. But she said she was on tablets from her doctor for nerves and would have to go and get some more!"

"Says it's her democratic right to refuse to take part in surveys such as this."

"Would not like to be used for this survey. Very nice, but asked me to leave."

"Initially made contact with a woman named X. She said the Ys had moved and her and her husband moved in. I made an appointment for next day with her husband. When I returned the woman answered, wouldn't even admit that Mr. and Mrs. X lived there. She said she was the babysitter and didn't know anything.

Next call - women and children gone and a couple (I think Bailliffs) were waiting to serve papers on the occupant of the house, under another name.

At this point I felt an interview would not be forthcoming."

* after minor editing

"Respondent was in house but would not answer the door. This is a 'changed' occupier. The woman is 'not quite right' to quote a neighbour. Her husband spends all day either in bookmaker's or in public house. Neither of them speak to neighbours and would obviously resent being questioned in this survey. Neighbours have tried to help the couple who obviously have problems."

"not capable. Senile and deaf"

"slightly senile"

"senile. Not well. Will not answer any questions. Stated I should not call on doors this time of night (8.55 p.m.) and will be advising head office and police. Came out in street and shouted."

"not available. Could not wait, had to go to another island"

"Lady Mayoress. Would need to make advance appointment."

"Never in - attacked by dog"

"no one in (dog)"

"They sell the most delicious home made honey. £1.75 per lb."

"Said his name couldn't have been taken from the electoral register as he's not on it and he's not interested in surveys anyway. A very positive refusal!"

"to say the lady was rude is putting it mildly."

"ironing - took ages to interview."

"This is a terrible area. Life at its rawest. Has to be seen to be believed." (Tayside)

APPENDIX D : Comparison between main survey and 1981 Census

There were no major differences between the present survey (conducted in 1982) and the 1981 Census in respect of the variables depicted in Tables D1 and D2. Such differences as there were may be explained by firstly, differences in the lower age limits of the respondents (16 years for the Census, 18 years for the 3 areas) and, secondly, the fact that Census data were collected 18 months prior to the present survey. It is also worth noting that Census data is not entirely error free (Lievesley 1981).

TABLE D1: Comparison of survey with 1981 Census: males.

	Survey			1981 Census		
	H	T	K	H	T	K
Age [1]						
16 - 29	22	22	20.7	28.4	28.4	25.7
30 - 39	19.8	20.6	15.0	18.9	17.4	18.2
40 - 49	18.1	16.3	15.5	15.3	15.2	14.2
50 - 64	20.8	23	24.1	20.9	22.1	21.3
65+	19.3	18.1	24.6	16.5	17	20.6
BASE	481	491	439	79748	139439	289061
Marital status [1]						
Single/widowed/ divorced	29.5	28	27	36.7	33.2	40.9
Married	70.5	72	73	63.3	66.8	59.1
BASE	478	490	437			
Economic position [1]						
a) active						
employed	69.4	71.4	67.9	70.7	67.1	
unemployed	7.1	7.6	5	7.3	9.1	
temporarily sick	2.7	1.4	1.1	0.9	0.8	
b) inactive	20.7	19.5	26	20.8	23	
BASE	477	490	436			
Social class of HOH [2]						
Non-Manual	61.9	62.7	65	60.3	56	59.5
Manual	38.1	37.3	35	34.8	39.1	35.6
BASE	126	142	123	3412	7341	9714

1: Same base for Census data (aged 16+)

2: 10% sample aged 16-64 from Census data. Figures do not add up to 100% because members of armed forces not presented on Table.

TABLE D2: Comparison of survey with 1981 Census: females

	Survey			1981 Census		
	H	T	K	H	T	K
Age [1]						
16 - 29	21.1	20.7	17.2	25.3	24.4	21.6
30 - 39	19.6	19.1	16.9	16.7	15.4	16.2
40 - 49	17.7	21.0	15.2	14.5	14	12.4
50 - 64	17.7	19.4	24.5	20.8	21.9	21.6
65+	24.0	19.7	26.2	22.6	24.3	28.1
BASE	317	319	302	84386	159227	316978
Marital status [1]						
Single/widowed/ divorced	34.1	33	37.1	40.1	31.1	39
Married	65.9	67	62.9	59.9	68.9	61
BASE	317	318	302			
Economic position [1]						
a) active						
employed	39.3	34.7	40.6	36.7	42	
unemployed	1.9	1.3	2.3	3.5	4	
temporarily sick	0	0.9	0	0.4	0.6	
b) inactive	58.8	53.2	57.1	59.5	53.3	
BASE	316	318	301			
Social class of HOH [2]						
Non-manual	40.4	42.8	39.1	30.5	33.8	38.8
Manual	59.5	57.1	60.9	65.3	60.9	56.8
BASE	339	355	302	6024	10426	15712

1: Same base for Census data (aged 16+)
2: 10% sample aged 16-64 from Census data. Figures do not add up to 100% because members of armed forces not presented on Table.

APPENDIX E : Supplementary multiple regression analyses from the main survey

Chapter 9.9 discussed data (Table 9.23) from a series of multiple regression analyses predicting consumption totals, times and rates in the past week, and total number of types (not frequency) of alcohol-related adverse consequences during the past two years. It was noted, however, that these analyses were based upon around 1050 of the 2349 respondents in the survey. This reduction in numbers was attributed to the large number of missing values arising from a small number of variables.

The data presented in Table E1 repeats the regression analyses, this time excluding several of the variables which were responsible for the loss of data. By excluding variables relating to social class, gross annual household income, and economic activity status the base was increased to around 1750. The remaining data loss arose because of missing values for variables relating to attitudes towards drinking and drunkenness, and (especially) to expectations about the effects of alcohol upon self. These variables were, however, retained in the analysis because of their relative predictive 'strength' and/or novelty.

The resultant analyses presented in Table E.1 generally confirms the findings obtained in Chapter 9.9. Once again:

1. Respondent sex and attitudes towards drinking or drunkenness were the strongest predictors of drinking behaviour. The relative

strengths of these variables did, however, alter for several of the repeat analyses.

2. Region of residence was not a powerful predictor of behaviour, and nor were the remaining socio-demographic variables.

3. The most powerful predictor of adverse consequences over the past two years was the approximate number of times in which the respondents exceeded 8 units in a day over that period.

In the majority of analyses presented in Table E1, the total amount of variance accounted for by all of the predictor variables, was relatively similar to those shown in Table 9.23. In some instances a small increased occurred, and in others a decrease. The most dramatic change occured with respect to total days drinking in the past week, for which the explained variance was reduced from 23.2% to 7.3% when the sample size was increased. There is no immediately obvious reason for this change.

Table E1: Supplementary multiple regression analyses

Total Consumption[a]			Heaviest Drinking Day[a]			% consumed at weekend[a]		
Variable	Multiple R	R^2	Variable	Multiple R	R^2	Variable	Multiple R	R^2
ATTDRINK	.383	.146	ATTDRUNK	.351	.124	ATTDRINK	.274	.075
SEX	.478	.229	SEX	.440	.194	EXPECT+	.306	.093
EXPECT+	.511	.261	ATTDRINK	.471	.222	SEX	.323	.105
ATTDRUNK	.525	.275	EXPECT +	.491	.241	AGE	.335	.112
AGE	.529	.280	AGE	.503	.253	ATTDRUNK	.339	.115
EXPECT-	.533	.284	EXPECT-	.507	.257	MARITAL	.342	.117
RELIGION	.535	.287	RELIGION	.508	.259	RELIGION	.342	.117
REGION	.536	.287	REGION	.509	.259	REGION	.342	.117
BIRTH	.536	.287	BIRTH	.509	.259	BIRTH	.342	.117
MARITAL	.536	.287	MARITAL	.509	.259	EXPECT-[b]		
BASE	1744			1745			1744	

Notes: (a) In past week, square-root transformed
(b) Did not significantly contribute to regression

Total Drinking Days[a]			Total Drinking Hours[a]			Total Drinking Periods[a]		
Variable	Multiple R	R^2	Variable	Multiple R	R^2	Variable	Multiple R	R^2
ATTDRINK	.239	.057	ATTDRINK	.378	.143	ATTDRINK	.387	.150
SEX	.257	.066	SEX	.433	.187	SEX	.438	.192
EXPECT+	.262	.069	EXPECT+	.461	.213	EXPECT+	.450	.203
ATTDRUNK	.266	.071	ATTDRUNK	.470	.221	BIRTH	.453	.206
AGE	.267	.072	AGE	.473	.224	MARITAL	.454	.206
BIRTH	.268	.072	RELIGION	.475	.225	AGE	.454	.206
EXPECT-	.269	.072	EXPECT-	.475	.226	EXPECT-	.454	.206
RELIGION	.269	.072	REGION	.475	.226	RELIGION	.454	.206
REGION	.269	.073	BIRTH	.475	.226	REGION	.454	.206
MARITAL	.269	.073	MARITAL	.476	.226	ATTDRUNK[b]		
BASE	1739			1738			1739	

Notes: (a) In past week
(b) Did not significantly contribute to regression

Time (hours) per period[a]			Units per hour[a]			Units per day[a]		
	Multiple			Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2	Variable	R	R^2
ATTDRINK	.319	.102	SEX	.330	.109	ATTDRUNK	.376	.142
EXPECT+	.382	.146	ATTDRINK	.422	.178	SEX	.463	.215
ATTDRUNK	.411	.169	EXPECT+	.448	.201	EXPECT+	.497	.247
SEX	.430	.185	ATTDRUNK	.458	.210	ATTDRINK	.519	.269
AGE	.441	.195	AGE	.462	.213	AGE	.531	.282
RELIGION	.442	.195	EXPECT-	.463	.214	EXPECT-	.534	.285
EXPECT-	.442	.195	REGION	.463	.215	RELIGION	.535	.286
BIRTH	.442	.195	MARITAL	.463	.215	BIRTH	.535	.287
REGION	.442	.195	BIRTH	.463	.215	REGION	.536	.287
MARITAL	.442	.195	RELIGION[b]			MARITAL	.536	.287
BASE	1736			1735			1736	

Notes: (a) In past week
(b) Did not significantly contribute to regression

Units per period[a]			Total consequences[b]		
	Multiple			Multiple	
Variable	R	R^2	Variable	R	R^2
ATTDRUNK	.379	.144	TOTAL8	.578	.334
SEX	.462	.214	EXPECT-	.618	.382
EXPECT+	.496	.246	TOTAL14	.640	.410
ATTDRINK	.517	.267	EXPECT+	.655	.429
AGE	.530	.281	ATTDRUNK	.665	.442
EXPECT-	.533	.284	AGE	.670	.449
RELIGION	.534	.285	REGION	.672	.452
BIRTH	.534	.285	SQRTWEEK	.674	.455
REGION	.534	.286	RELIGION	.675	.456
MARITAL	.534	.286	SEX	.675	.456
			AREA	.675	.456
			MARITAL	.675	.456
			ATTDRINK	.675	.456
BASE	1736			1697	

Notes: (a) In past week
(b) Over past 2 years

APPENDIX F : Areas sampled

The Regions

The study comprised three regions:

i) Highland Region - including the Inner and Outer Hebrides but excluding Orkney and Shetland.

ii) Tayside - All

iii) South East - all to the East of the line on the map provided including the circled towns.

Method

The Parliamentary Constituencies which covered each of the three regions were defined. In the two regions in Scotland some of the constituencies fell into two or more regions. In these cases only the part of the constituency in the defined region was used.

For each region the constituencies were:

Highland Region

1. Western Isles (All)
2. Caithness & Sutherland (All)

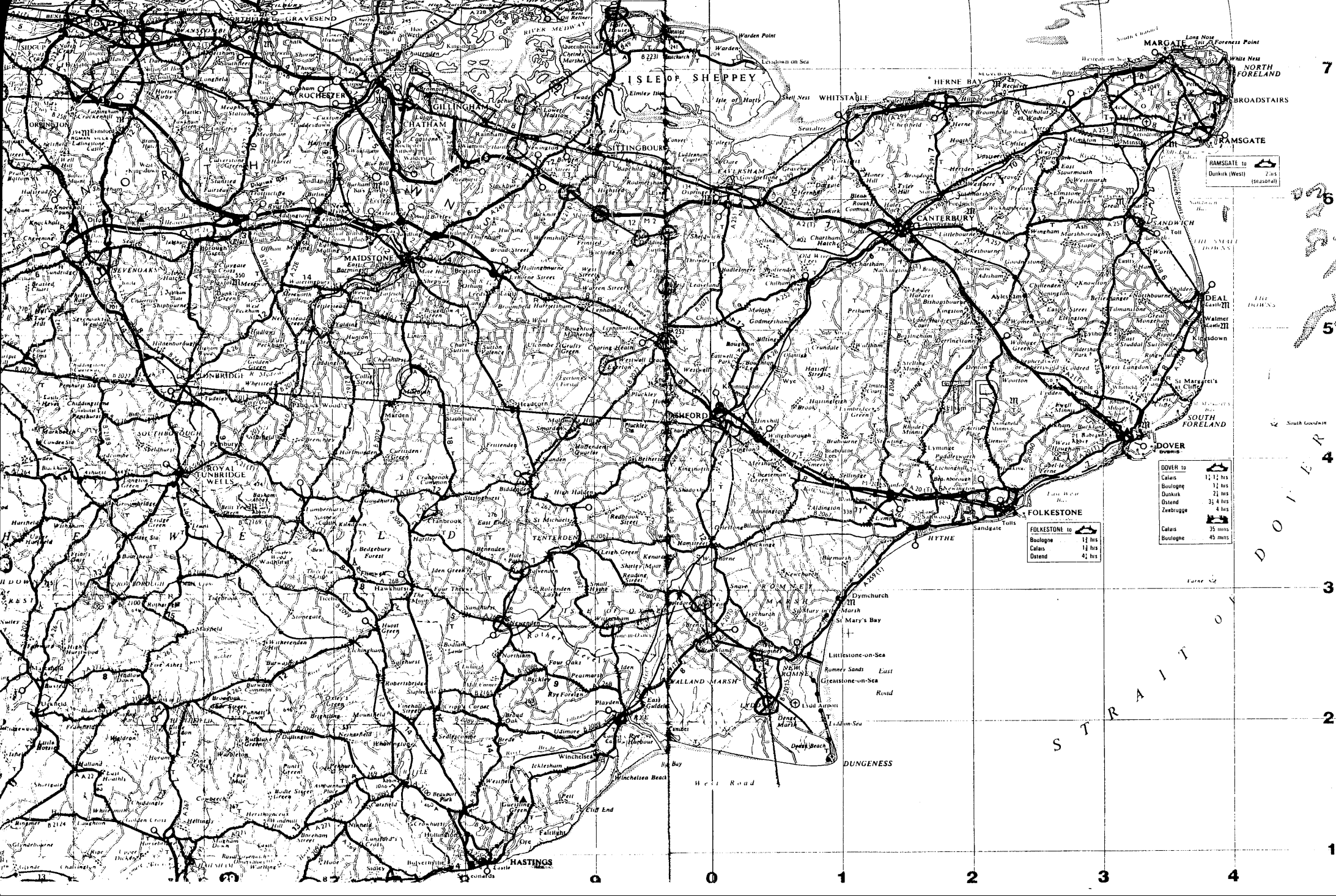
3.	Ross & Cromarty	(All)
4.	Inverness	(All)
5.	Argyll	(Part)
6.	Moray & Nairn	(Part)

Tayside

1.	Dundee East	(All)
2.	Dundee West	(All)
3.	South Angus	(All)
4.	Perth & East Perthshire	(All)
5.	N. Angus & Mearns	(Part)
6.	Kinross & West Perthshire	(Part)

South East

1.	Canterbury	(All)
2.	Ashford	(All)
3.	Dover & Deal	(All)
4.	Thanet East	(All)
5.	Folkestone & Hythe	(All)
6.	Faversham	(All)
7.	Thanet West	(All)


ISLE OF SHEPPEY
MAIDSTONE
CANTERBURY
ASHFORD
FOLKESTONE
DOVER
HASTINGS
ROYAL TUNBRIDGE WELLS
SITTINGBOURNE
GILLINGHAM
CHATHAM
ROCHESTER
GRAVESEND
SEVENOAKS
ORPINGTON
SOUTHBOROUGH
TENTERDEN
HYTHE
Dymchurch
St Mary's Bay
Littlestone-on-Sea
New Romney
Greatstone-on-Sea
Lydd Airport
DUNGENESS
Dungeness Beach
Rye Harbour
Winchelsea
Winchelsea Beach
Rye
Camber
Hastings
St Leonards
Eastbourne
Pevensey
Bexhill
Battle
Robertsbridge
Hawkhurst
Cranbrook
Biddenden
Headcorn
Staplehurst
Marden
Paddock Wood
Tonbridge
Sevenoaks
Swanley
Dartford
Erith
Bexley
Sidcup
Crayford
Dartford
Swanscombe
Northfleet
Gravesend
Chatham
Rochester
Strood
Rainham
Sittingbourne
Faversham
Ospringe
Teynham
Lynsted
Sittingbourne
Milton Regis
Kemsley
Sheerness
Isle of Sheppey
Minster
Queenborough
Halfway
Leysdown on Sea
Warden Point
Shell Ness
Whitstable
Herne Bay
Reculver
Margate
North Foreland
Broadstairs
Ramsgate
Sandwich
Deal
Walmer
Kingsdown
South Foreland
St Margaret's at Cliffe
Dover
Folkestone
Sandgate
Hythe
Romney Marsh
Walland Marsh
Rye Foreign
Udimore
Broad Oak
Brede
Icklesham
Westfield
Battle
Crowhurst
Catsfield
Ninfield
Bexhill
Pevensey
Eastbourne
Beachy Head
Cuckmere Haven
Seaford
Newhaven
Lewes
Uckfield
Crowborough
Tunbridge Wells
Royal Tunbridge Wells
Southborough
Penshurst
Edenbridge
Westerham
Oxted
Limpsfield
Godstone
Caterham
Warlingham
Sanderstead
Croydon
Addington
Sevenoaks
Otford
Shoreham
Eynsford
Farningham
Dartford
Bexley
Sidcup
Orpington
Petts Wood
Chislehurst
Bromley
Beckenham
Penge
Anerley
Norwood
Streatham
Tooting
Wandsworth
Battersea
Chelsea
Kensington
Hyde Park
Westminster
City of London
Tower Bridge
Greenwich
Blackheath
Lewisham
Deptford
Rotherhithe
Bermondsey
Southwark
Lambeth
Vauxhall
Clapham
Brixton
Camberwell
Peckham
Dulwich
Sydenham
Forest Hill
Catford
Lee
Eltham
Mottingham
Chislehurst
Bromley
Beckenham
Penge
Anerley
Norwood
Streatham
Tooting
Wandsworth
Battersea
Chelsea
Kensington
Hyde Park
Westminster
City of London
Tower Bridge
Greenwich
Blackheath
Lewisham
Deptford
Rotherhithe
Bermondsey
Southwark
Lambeth
Vauxhall
Clapham
Brixton
Camberwell
Peckham
Dulwich
Sydenham
Forest Hill
Catford
Lee
Eltham
Mottingham
RAMSGATE to Dunkirk (West) 2 hrs (seasonal)
DOVER to Calais 1¼ 1½ hrs; Boulogne 1½ hrs; Dunkirk 2¼ hrs; Ostend 3¼ 4 hrs; Zeebrugge 4 hrs
Calais 35 mins; Boulogne 45 mins
FOLKESTONE to Boulogne 1¾ hrs; Calais 1¾ hrs; Ostend 4¼ hrs
STRAIT OF DOVER
West Road
Tollgate
Toll
Sandgate
Tolls
Long Nose
Foreness Point
White Ness
South Goodwin
The Downs
South Foreland
North Foreland
Sandwich Bay
Pegwell Bay
Deal Castle
Walmer Castle
Kingsdown
Ramsgate
Broadstairs
Margate
Herne Bay
Whitstable
Seasalter
Faversham
Ospringe
Teynham
Lynsted
Sittingbourne
Milton Regis
Kemsley
Sheerness
Isle of Sheppey
Minster
Queenborough
Halfway
Leysdown on Sea
Warden Point
Shell Ness
Whitstable
Herne Bay
Reculver
Margate
North Foreland
Broadstairs
Ramsgate
Sandwich
Deal
Walmer
Kingsdown
South Foreland
St Margaret's at Cliffe
Dover
Folkestone
Sandgate
Hythe
Romney Marsh
Walland Marsh
Rye Foreign
Udimore
Broad Oak
Brede
Icklesham
Westfield
Battle
Crowhurst
Catsfield
Ninfield
Bexhill
Pevensey
Eastbourne
Beachy Head
Cuckmere Haven
Seaford
Newhaven
Lewes
Uckfield
Crowborough
Tunbridge Wells
Royal Tunbridge Wells
Southborough
Penshurst
Edenbridge
Westerham
Oxted
Limpsfield
Godstone
Caterham
Warlingham
Sanderstead
Croydon
Addington
Sevenoaks
Otford
Shoreham
Eynsford
Farningham
Dartford
Bexley
Sidcup
Orpington
Petts Wood
Chislehurst
Bromley
Beckenham
Penge
Anerley
Norwood
Streatham
Tooting
Wandsworth
Battersea
Chelsea
Kensington
Hyde Park
Westminster
City of London
Tower Bridge
Greenwich
Blackheath
Lewisham
Deptford
Rotherhithe
Bermondsey
Southwark
Lambeth
Vauxhall
Clapham
Brixton
Camberwell
Peckham
Dulwich
Sydenham
Forest Hill
Catford
Lee
Eltham
Mottingham
0
1
2
3
4
1
2
3
4
5
6
7

CONSTITUENCY	WARD	POLLING DISTRICT	AREA
Western Isles	01 Port of Ness	W1A	Isle of St. Lewis
	10 Coulregrein	W10A	Stornoway
	14 Newton	W14	Stornoway
	17 Tiumpan	W17B	(Bayble) I. of Lewis
	22 Bays	W22A/B/C	Isle of Harris
Caithness & Sutherland	01	C1A	Thurso
	04	C4A	Thurso
	07	C7A	Wick
	08	C8A	Wick
	11	C11A	Lybster
	16	C16B	(Reay) Thurso
	05	S5A/B/C	Golspie, Rogart, Brona
	10	S10A	Clyne
Ross & Cromarty	02	R2 D/E	Coulin/Strathcomer
	05	R5B	Maryburgh
	06	R6A	Muir of Ord
	07	R7A/R8A	
	12	R12C/D	Fortrose Balblair
	15 Part 1	R17A	Invergordon
	18	R20A	
	20 Part 1	R22A	Tain
Inverness	01	L1 Part 1	Fort William
	03	L5	Caol (Fort William)
	01 South Kessock	I01A	Inverness
	05 Columba	I05A	Inverness
	09 Crown	I06A	Inverness
	14 Lochardil	I14A	Lochardil (Inverness)
	16 Balloan	I16A	Balloan (Inverness)
	17 Balloch/Cullochen	I17A	Balloch (Inverness)
	18B Smithton	I18BA	Smithton Inverness
	22 Glen Urquhart	I22A	Glen Urquhart
	22A Kinmylies	I22AA	Inverness
	22B Craigrahadny	I22BA	Inverness
	24 Kiltarlity/Kirkhall	I24E/D/C	Inverness
	06 Ballifeary	I05A	Inverness
	07	B7A/B/C	Aviemore, Kingassie
	09	B0	Newtonmore Newtonmore

CONSTITUENCY	WARD	POLLING DISTRICT	AREA
Moray & Nairn	01 North Nairn	N1	Nairn
	03 Nairn S.	N3	Nairn
	02 Bademoch & Shraspey	B2	Grantown on Spey

CONSTITUENCY	WARD	POLLING DISTRICT	AREA
Dundee East	2. Baxter Park	ED(i)	Dundee
	4. Craigiebank	EG	"
	7. Balgillo	EJ	"
	8. Eastern	EK(i)	"
	10. Douglas	EM(i)	"
	11. Drumgerth	EO(i)	"
	16. Midmill	EW(i)	"
	17. Clepington	EY	"
	20. Hilltown	ECC	"
Dundee West	26. Ancomy	WJ	"
	28. Goweriehill	WL	"
	29. Gourdie	WM	"
	30. Pitalpia	WN	"
	31. Lochee West	WO(i)	"
	35. Trotrich	WW	"
	37. Downfield	WZ	"
	38. St. Marys	WCC(i)	"
South Angus	1. Harbour	SD(i) Arbroath	Arbroath
	2. Abbey	SE	"
	4. Keptie	SG(i)	"
	5. Hayshead & St.Vigeans	SK	"
	7. Carnoustie West Panure	SN(ii)	Carnoustie
	9. Forfar West	STB	Forfar
	10. Forfar South	ST(i)	"
	11. Monifieth West	SAL(iii)	Monlfieth
Perth & East Perthshire	01	PAA(ii) Perth City	Perth
	02	PPB(ii) Perth City	"
	04	PPG(ii) Perth City	"
	05	PPM(i) Perth City	"
	06	PPK	"
	07	PPL(ii)	"
	09	PPN(i)	"
	24	PAD Kinclaven & Stanley	Perth
	27.	PAB Inchture	Inchture
N. Angus & Mearns	19. Northest	NM Edzell	Inverkeilor
	21. Brenchin North	NA(i) Brechin	Breching
Kinross & West Perthshire	12.	Rannoch Wst Kinloch Rannoch	Rannoch
	18.	KO(ii) Crieff	Crieff
	19.	KN(i) Comrie	Crieff
	20.	KE(i) Auchterarder	Auchterarder

CONSTITUENCY	WARD	POLLING DISTRICT	AREA
Canterbury	Barton Ward	E. Barton Ward (Pt)	Canterbury
	Blean Forest	G. Blean (Pt)	"
	Gorrell	O. Gorrell (Pt)	"
	Harbour	S. Harbout (Pt)	"
	Heron	Y. Heron (Pt)	"
	St. Stephens	QQ St. Stephens (Pt)	"
	Sturry South	CCC Sturry, Sth	"
Ashford	Rolvenden	YY Rolvenden	Ashford
	Chilham	AA Chilham Dane St.	Village near Ashford
	Tenterden E	PP Tenterden	" " "
	Bethersden	DDD Bethersden	" " "
	Kingsworth	OOO Shadexhurst	" " "
Dover & Deal	North Deal	AA4 Victoria	Deal
	St. Radigunds	WL St. Radigunds	Village near Dover
	Maxton & Elmsvale	EP Maxton & Elmsvale	" " "
	Sheperdswell with Coldred	FA Coldred	Wootton
	Little Stour	GG Preston	Preston
	Sandwich	GL2 Sandwich South	Sandwich
	Worth	MW Sholden	Sholden
Thanet West	Thanet Parishes	Monkton/Sarre	Sarre nr. Birchington
	Birchington E.	Birchington E (Quex)	Birchington
	Dane Park	Dane Park (S)	Margate
	Cliftonville	Cliftonville (E)	"
Folkestone & Hythe	Saltwood & Newington	A.E. Saltwood	Saltwood
	Hythe West	CP1 Hythe West No 1	Hythe
	New Romney	EA New Romney	New Romney
	St. Mary in the Marsh	FM1 St. Mary in the Marsh	St. Marys Bay
	Folkestone Forde	BB1 Folkestone Ford No 1	Folkestone
	Folkestone Harvey	BF1 Folkestone Harvey	Folkestone
Faversham	St. Ann's	FE St. Annes E.	Faversham
	Sheerness W	IE Sheerness W	Sheerness
	Queensborough & Halfway	QA Queensborough	Queensborough
	Eastern	QK Eastern Minster	East Minster - Isle of Sheppey
	Grove	SB Grove East	Swale
	Hartlip & Upchurch	WJ Hartlip	Hartlip

CONSTITUENCY	WARD	POLLING DISTRICT	AREA
Thanet East	Kingsgate	Kingsgate (Whiteness)	North Foreland
	Central Eastcliffe	Central Eastcliffe (Boundary Road)	Eastcliffe nr. Ramsgate
	St. Lawrence	St. Lawrence (Nethercourt)	Ramsgate
	Newington	Newington	Ramsgate
	Central Westcliffe	Ellington	

APPENDIX G : Interviewer training package

Each interviewer conducted at least one training interview in the field while accompanied by an experienced Survey Research Associates field manager. A draft version of the questionnaire was provided for this purpose. During the week prior to commencement of the data gathering period, interviewers from each area were brought together for a half day group training session at the location listed below:

Date	Region	Location
26.8.82	Highland	Inverness
27.8.82	Tayside	Dundee
2.9.82	Kent	Canterbury

The training sessions were attended by Alex Crawford (Alcohol Research Group), Richard Latcham (MRC Unit for Epidemiological Studies in Psychiatry), and Mike Cooke and Zoe Dewfield (Survey Research Associates).

The structure of each session was as follows:

1. Brief review of survey objectives (A.C.,R.L.).
2. Review of respondent selection procedures (Z.D., M.C.).
3. Mock interview during which each interviewer took turns to direct questions from the interview schedule to Zoe Dewfield, who replied in accordance with a script designed to illuminate potential problem areas.
4. Open question time (A.C., R.L., M.C., Z.D.).

The remainder of this appendix contains the following items:

G.1 List of items as supplied to interviewer

G.2 Interviewer manual

G.3 Transcript of replies for mock interview

G.4 Contact sheet

G.5 Show cards

G.6 Alcohol conversion table

G.7 Clock card

G.8 Sample address sheet

G.9 Problem sheet

G.10 Daily progress sheet

G.11 Introductory letter to police

G.12 Introductory letter to respondents

G.13 Letter sent out to respondents requesting additional information about survey.

MEMORANDUM G1.

FROM: ZOE DEWFIELD

TO: INTERVIEWERS WORKING ON SRA/7977
(DRINKING SURVEY)

CC.

DATE: 23rd August, 1982

SUBJECT: BRIEFING

EQUIPMENT REQUIRED FOR BRIEFING

This pack contains everything you will need for the Drinking Survey briefing. That is:

2 Blank Questionnaires, (see Appendix I)
Manual,
2 Contact Sheets/Non-Elector Sheets,
Set of Showcards (A-K),
Conversion Table,
Clock Card,
Example of Address List,
Problem Sheet,
Daily Progress Sheet,
Expense Form. (not included in appendix)

PREPARATION

Before the briefing can you please read through the Manual and Questionnaire carefully. Any queries you have can you please write them on the problem sheet. so that you can raise them at the briefing.

Please remember to bring your equipment at the briefing.

Zoe

.....

ZD:FM

DRINKING SURVEY

INTERVIEWER MANUAL

INTRODUCTION

This survey is being conducted on behalf of the Alcohol Research Unit of Edinburgh University. They are undertaking a major research project to evaluate peoples attitude towards drink with respect to their own drinking habits. It is therefore important that we interview both drinkers and non-drinkers.

THE SAMPLE

We wish to interview a representative sample of residents aged 18 years and over in three areas of the country:

1) Highlands & Islands
2) Tayside
3) South-East England.

The most accurate way to achieve a representative sample is to use the Electoral Registers which are compiled each year for every constituency in the country. Electoral Registers are used for voting in Local and General Elections.

However these lists are not updated within the year period and consequently cannot take into account those people who move out of areas and those who move into areas at different times of the year.

For this study we have selected a sample of 'named electors', at random, from the 1981 Electoral Register for you to interview.

Due to the problem of people moving, you must check at each address to see if there is anybody living there, who is 18 years or over and who is not listed on the 1981 Electoral Register at that address. To do this ask if each member of the household over 18 years old is on the Electoral Register. As a guide you can use your address sheets which tell you the number of electors which were at that address when the register was compiled.

This can only be used as a guide as often the composition of the household changes but still leaving the same number of 'electors' or 'should be electors' at that address

Any adults who are not listed on the Register have not had a chance of being selected for an interview and in order to represent the whole population properly we must select a sample of them to be interviewed. We call these people "non-electors". They may be registered to vote somewhere else but they are not on the register at the address where you found them.

Remember we are using the 1981 Electoral Register. If someone from the Register Office has recently called at one of your selected addresses (i.e, in the last month) this is to prepare for the 1982 Register. Thus any changes which have occurred will not be listed on the 1981 Register which you are using and thus should be treated as Non-Electors.

There are two types of "non-electors" that you will encounter on this survey. They are:

1) Anybody who is 18 years or over and had joined the existing household of the sampled elector since the Electoral Register was compiled in October 1981.

2) New households who have moved in and totally replaced the household at which the selected elector used to live. In this case all 18+ year olds in the new household are classified as "non-electors".

Using the address serial number tick the box next to that number below. Write in alphabetical order the name of each non-elector in household. If none write in 'none' in the first column. Tick selected non-electors if interviewed. If non-contact, please cross (X) beside name.

ADDRESS SERIAL NO.	TICK APPROPRIATE BOX BELOW	NAMES (SURNAME & CHRISTIAN NAMES) OF NON-ELECTORS IN HOUSEHOLD (IN ALPHABETICAL ORDER)						NO. OF NON-ELECTORS IN HOUSEHOLD					
		1	2	3	4	5	6	1	2	3	4	5	6+
1/21								1	2	2	2	4	4
2/22								1	1	3	3	5	5
3/23								1	2	1	4	1	6
4/24								1	1	2	1	2	1
5/25								1	2	3	2	3	2
6/26								1	1	1	3	4	3
7/27	✓	JOAN WILLIAMS	STEVEN WILLIAMS ✓	ANN YOUNG				1	2	(2)	4	5	4
8/28								1	1	3	1	1	5
9/29								1	2	1	2	2	6
10/30								1	1	2	3	3	1
11/31								1	2	3	4	4	2
12/32								1	1	1	1	5	3
13/33								1	2	2	2	1	4
14/34								1	1	3	3	2	5
15/35								1	2	1	4	3	6
16/36								1	1	2	1	4	1
17/37								1	2	3	2	3	2
18/38								1	1	1	3	1	3
19/39								1	2	2	4	2	4

Too ill/incapacitated

Write in reason.

No English spoken

If the elector speaks no English please see if there is an interpreter available in the household. E.g, in some Indian families often the parents do not speak English but their children do. If it is acceptable by the elector then conduct the interview through the child.

If there is no interpreter available write in the language the elector speaks as it is possible that we might know someone who will act as an interpreter.

6. Address Contact Sheets

Please send an Address Contact Sheet back for every address you have been given to contact. If you have been given 30 addresses to contact we must receive from you 30 address contact sheets. Please attach the address contact sheet for every effective interview to the questionnaire and send all the "non-effective" address contact sheets back as soon as they have been completed.

ALL CONTACT SHEETS AND QUESTIONNAIRES MUST BE SENT DIRECTLY TO:

Mrs. Barbara English,
52 Upper Elmers End Road,
Beckenham,
Kent.

On each Address Contact Sheet please remember to write in:

i) Region - e.g., Highlands & Islands, Tayside or Kent.

ii) Constituency and Ward - This is found on the front sheet of your address sheets.

iii) Sampling Point No. and Address Serial No. - The Sampling Point No. is the three digit number found on the top of your address sheets. The Address Serial Number is the number enetred on the left hand side of your address sheets and ranges from 01 - 40. There is a different address serial no. for every address in each sampling point. It is vital that you write down the correct numbers for checking-in purposes.

If you are unclear of your sampling point number, see the list at the back of these instructions which identifies each sampling point number by its constituency and ward.

iv) Address - Write in full address clearly.

v) Code to state if there are any non-electors or not at that address.

vi) For Selected Elector - e.g, name on sample sheet, write in:

a) Total number of calls made at that address to contact selected elector. This includes the call made for the interview.

b) Outcome of final call.

c) If elector is male or female.

iii) Those who are unwilling to be interviewed, but who proceed to interrogate you on the ethics of market research, advertising, the business world in general, or complain about government bodies. An experienced interviewer can often get a good interview from this category. The interviewer becomes adept at cutting people off in the nicest possible way, asking and getting answers to the first questions before the respondent realises he is being interviewed, gaining and holding the respondent's interest, and keeping firm control over the interview situation and allowing no further side-tracking. Overcoming this sort of challenge is one of the most satisfying aspects of interviewing.

Really awkward questioners are very few as most people expect only a very general statement on the subject of the survey before you start the interview.

However, there is absolutely no need for you to waste time in long discussion with a persistent questioner. Simply explain to him that he will find out about the survey if he allows you to interview him; if this does not satisfy refer to the letter supplied and suggest that they contact SRA's Head Office for further information.

8.3. Other People at the Interview

In many cases there will be other members of a household around while you are interviewing the selected respondent. Some will want to tell you their opinion or will answer for the respondent. You must explain to them that you have to interview the selected person only. As a last resort terminate the interviw and return to a later date to complete the interview at a time when you expect the interfering person will not be around. This extreme course should not really be necessary if you take pains to explain fully that a representative cross section of people has been selected and that the views of the respondent are needed to keep the sample in balance.

9. SOME POINTS TO REMEMBER WHEN COMPLETING THIS QUESTIONNAIRE

9.1. When recording answers, circle the pre-codes clearly and carefully. Always work in black biro.

9.2. Where numbers have to be written in the boxes you must put in all leading zeros, e.g.:

0	7	0

9.3. If you wish to change a coding, cross out boldly and ring the correct code:

e.g., Male ------ ⊗
Female ---- ②

9.4. In some questions e.g, Q.E, Q.G in the 7-DAY DIARY you record the answer by ticking the appropriate box(es), please do this as follows [✓] do not put a cross in the box.

9.5. Always look for a filter instruction beside the answer you code up. If there is no filter then always ask the next question.

9.6. Before returning the questionnaire you must check it thoroughly, write in your interviewer number and sign and date the questionnaire. This applies to the address contact sheets as well, you must complete it fully, check it and sign it.

SECTION I

Introduction

Q.1. Show Card A Use the showcard to find out how often the respondent drinks alcohol. Code by ringing the number next to the respondent's answer. E.g., if respondent drinks 1-2 times a week ring code 3.

If the respondent has never drunk alcohol (Code 0) then go to Section 3 on Page 20.

Q.2. Ask all who have had a drink containing alcohol. Use Show Card B.

Make sure you follow the correct filter at this question.

If a respondent has had a drink containing alcohol in the LAST 7 DAYS you go to the preamble at the bottom of the page - these respondents are asked the Diary Section.

If the respondent has not drunk in the last 7 days BUT has drunk in the last 12 months (codes 2-6) Go to Q.4 on page 17.

If the respondent last had a drink OVER 12 months ago - Go to Section 3 on page 20.

These filters are very important.

DIARY SECTION - SEE EXAMPLE SHEET

Preamble: It will be necessary for you to probe in order to jog the respondents memory. This is necessary to ensure complete accuracy when, what and how much was drunk on any day in the 7 day period. For your own sake do not rush respondents through these questions and be patient and encourage the respondent to think back over the past week.

The question should be asked for each of the previous 7 days starting with yesterday. That is if the interview took place on a Saturday, you begin by asking about the Friday. Record day at the top of each diary page.

FOR EACH OF THE 7 DAYS ASK THE FOLLOWING:

Q.A. If the respondent had something alcoholic to drink on that day ring 1. If no alcoholic drink was consumed then ring 2.

If the respondent did not have anything to drink at all on the day in question go to next day (i.e, previous day) and repeat.

If the respondent is uncertain whether or not any alcohol was drunk on the day in question then probe by jogging the respondents memory:

- i.e., "Can you remember what you were doing in the morning/lunchtime/ afternoon/evening of ... day. Did you have a drink at that time?"

  OR "Can you remember what you normally do on a ...day? Did you do so last ... day? Did you have anything to drink?"

  OR "Who were you with on ... day? Can you remember what you did, etc."

Do not be surprised if respondents change their minds about which day they actually had a drink or about specific details of their drinking. Reassure them that it is a difficult task to remember and help them make the necessary changes.

Q.B & Q.C DRINKING PERIODS

Definition

1) A new drinking period is defined as one which occurs more than 2 HOURS AFTER a previous occasion has stopped.

2) A 'drinking' day is defined as the period beginning at 6 am (0600 hours) and continuing on the following 'normal day'. (This avoids having to record over 2 days those occasions which continue until after midnight).

For each day on which the respondent has a drink you should ascertain the number and duration of drinking occasions. To obtain this information you should show the respondent the clock and ask the respondent to indicate, to the nearest ½ hour, when the first occasion on that day started and finished respectively. Then ask Q.C and go on until all periods are recorded. The first 3 periods should be discussed separately (Q.D-Q.G) and the fourth and subsequent periods collectively. (Q.H/Q.I).

A somewhat complex example of a single drinking occasion is as follows: a respondent has a few drinks in a pub, followed by a visit to an off-licence for some additional drinks (a 'carry-out' in Scotland), somd of which are consumed en-route to the final destination e.g, own home, party, football match etc. Unless the time interval between any of these events is greater than 2 hours, this entire sequence would be classified as a single occasion.

If the respondent indicates an extended session longer than 24 hours (e.g, 2-3 days) write in this period at the side of the question but since it is unlikely that (s)he drank continuously, if for no other reason than the necessity for sleep, you should continue to probe for a specific time or occasion which may continue for up to 24 hours.

FOR THE FIRST THREE OCCASIONS -
Write down the time the drinking period started and finished to the nearest half hour using a 24 hour clock, e.g.:

1.00 pm = 13.00

3.30 pm = 15.30

Having established all the different occasions (times) when the respondent had a drink, take the first three occasions separately and ask the following:

Q.D. ALCOHOL CONSUMED

We need to know what type and how much alcohol was drunk by each respondent in the separate drinking periods.

Type of Drink

Here we are interested in the generic names of drink such as beer, lager, whisky, gin etc. We are not interested in the specific brand names of the type of drink.

If a respondent gives you the name of a drink you've never heard of, probe for more information, e.g., ask if that is a type of whisky/wine/beer, etc.

Watch out for local terms used e.g, Scots often talk of a 'half' which means a single measure of whisky, in England it generally refers to a half pint of beer.

Q.H. This is asked of all respondents who claimed to have more than three separate drinking occasions.

Q.1. See Q.D - Alcohol consumed.

Q.3-8 Follow the filters carefully.

Q.3. Ask all who have drunk in the last 7 days.

Q.4. ASK ALL WHO HAVE DRUNK IN THE LAST YEAR BUT NOT IN THE LAST 7 DAYS (Q.2 Codes 2-6)

We are interested to know how much alcohol these respondents drunk in the last day they drunk alcohol.

As it was over 7 days ago this question will require you to probe to make sure the respondent recalls all types of drink and the amount they drunk.

Use the same probes as for the diary section, e.g, what were you doing on ...day? Try and job the respondent's memory as much as possible.

See Q.D - Alcohol consumed for detailed instructions on how to fill in this question.

Q.5. ASK ALL RESPONDENTS WHO HAVE DRUNK IN THE LAST 12 MONTHS (Q.2 codes 1-6)

Show Card C1

We need to know whether the respondent has drunk 8 units of alcohol or more in the past two years.

To help the respondent we have provided a showcard which gives some equivalent measures of alcohol in terms of units.

The respondent need not drink just one type of drink but can drink 8 units by drinking different combinations of drink.

e.g., 3 pints of beer = 6 units
2 single measures of whisky = 2 units
] = 8 units

or ½ bottle of wine = 4 units
and 4 measures of port = 4 unit
] = 8 units

If respondent has drunk 8 units or more in the last 2 years ask Q.6.

Q.7/8 As Q.5/6 except it is if the respondent has drunk 14 units of alcohol or more.

SECTION 2-4

Read the questions carefully from the questionnaire. Always use the wording given. Do not paraphrase or reword questions. If a respondent does not understand a question then read it out again slowly. If there is still no understanding then code "Don't know" and move on to the next question.

Use Show Cards where stated.

When a number of statements are listed rotate the order of starting with each interview e.g, either at the top or the bottom of the list. Tick the box to show where you started.

CLASSIFICATION SECTION

INTERVIEWER: OBTAIN THE FOLLOWING INFORMATION FOR EACH MEMBER OF THE HOUSEHOLD:

Q.22 *(1) Relationship to Head of Household (or chief wage earner)?*
(2) Sex?
(3) Age?
(4) Marital Status?
(5) Activity/Employment?

	RESPONDENT	PERSON 2	PERSON 3	PERSON 4	PERSON 5	PERSON 6	PERSON 7	PERSON 8
RELATIONSHIP TO HEAD OF HOUSEHOLD	(29)	(35)	(41)	(47)	(53)	(59)	(65)	(71)
Head of Household	1	1	1	1	1	1	1	1
Spouse of Head of Household	2	2	2	2	2	2	2	2
Child of Head of Household	3	3	3	3	3	3	3	3
Parent of Head of Household	4	4	4	4	4	4	4	4
Other Relation of H/H	5	5	5	5	5	5	5	5
Not related to H/H	6	6	6	6	6	6	6	6
SEX	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)
Male	1	1	1	1	1	1	1	1
Female	2	2	2	2	2	2	2	2
AGE IN YEARS (Write In)	(31)(32)	(37)(38)	(43)(44)	(49)(50)	(55)(56)	(61)(62)	(67)(68)	(73)(74)
N.B. Less than 1 yr - 00 98+ years - 98 Don't know - 99	35	36	04					
MARITAL STATUS	(33)	(39)	(45)	(51)	(57)	(63)	(69)	(75)
Single (not living with someone as married)	1	1	1	1	1	1	1	1
Married (or living with someone as married)	2	2	2	2	2	2	2	2
Separated/Widowed/Divorced	3	3	3	3	3	3	3	3
ACTIVITY/EMPLOYMENT STATUS	(34)	(40)	(46)	(52)	(58)	(64)	(70)	(76)
Full-time work (30+ hours per week)	1	1	1	1	1	1	1	1
Part-time work (8-29 hours per week)	2	2	2	2	2	2	2	2
Unemployed and seeking work	3	3	3	3	3	3	3	3
Unemployed & not seeking work	4	4	4	4	4	4	4	4
Temporarily laid off	5	5	5	5	5	5	5	5
Permanently out of work due to illness/disability	6	6	6	6	6	6	6	6
Temporarily out of work due to illness/disability (ie no job to go back to)	7	7	7	7	7	7	7	7
Retired	8	8	8	8	8	8	8	8
Housewife	9	9	9	9	9	9	9	9
Full-time education (17+ yrs)	0	0	0	0	0	0	0	0
School (5-16 years)	X	X	X	X	X	X	X	X
Pre-school/School under 5	Y	Y	Y	Y	Y	Y	Y	Y

WHEN YOU HAVE COLLECTED THE PERSONAL DETAILS PLEASE COMPLETE THE FOLLOWING SUMMARY:

CARD NO. 33 (10-11)

NUMBER OF ADULTS AGED 15+	2	(12)
NUMBER OF CHILDREN AGED 5-14	0	(13)
NUMBER OF CHILDREN AGED 0-4	1	(14)
TOTAL NUMBER IN HOUSEHOLD:	3	(15)

PLEASE WRITE IN THE EXACT DATE OF BIRTH OF RESPONDENT

DATE	MONTH	YEAR	
14	06	47	
(16)(17)	(18)(19)	(20)(21)	
		Refused - 1	(22)

AREA: HIGHLANDS & ISLANDS

FIELDWORK DATES	CONSTITUENCY	WARD	SAMPLING POINT NO.	NO. OF ADDRESSES
8-14 Sept.	Western Isles	01 Port of Ness	101	31
	" "	17 Tiumpan	104	33
	Caithness & Sutherland	04	107	30
		11	110	28
	" " "	10	113	29
	Ross & Cromarty	06	116	33
	" " "	15 Pt. 1	119	30
	Inverness	01 (L1 Pt 1)	122	29
	"	05 (Columba)	125	31
	"	16 Balloan	128	32
	"	22 Glen Urquhart	131	31
	"	24 Killarchy/Kirkhall	134	29
	"	09 (B9)	137	29
	Moray & Nairn	02 Strathsprey	140	29
15-21 Sept.	Western Isles	10 Coulregrein	102	33
	" "	22 Bays	105	29
	Caithness & Sutherland	16 (C16B)	111	31
	Ross & Cromarty	02	114	29
	" " "	07	117	31
	" " "	18 Part 1	120	32
	Inverness	03	123	31
	"	09 Crown	126	30
	"	17 Bulloch/Cullochen	129	29
	"	22A Kinmyles	132	28
	"	06 Ballifeary	135	27
	Moray & Nairn	01 N. Nairn	138	31
22-28 Sept.	Western Isles	14 Newton	103	29
	Caithness & Sutherland	01	106	31
	" " "	08	109	31
	" " "	05	112	30
	Ross & Cromarty	05	115	29
	" " "	12	118	29
	" " "	20 Pt. 1	121	29
	Inverness	01 South Kessock	124	29
	"	14 Lochardil	127	30
	"	18B Smithton	130	27
	"	22B Craigrahadny	133	29
	"	07	136	29
	Moray & Nairn	03 Nairn South	139	31

AREA: SOUTH EAST

FIELDWORK DATES	CONSTITUENCY	WARD	SAMPLING POINT NO.	NO. OF ADDRESSES
8-14 Sept.	Canterbury	Barton Ward	301	
	"	Harbour	304	28
	"	Shiny South	307	30
	Ashford	Tenterden E.	310	29
	Dover & Deal	North Deal	313	31
	" " "	Sheperdswell with Coldred	316	30
	" " "	Worth	319	30
	Thanet West	Dane Park (S)	322	30
	Faversham	Sheerness	325	29
	"	Grove	328	31
	Folkestone & Hythe	Hythe West	331	31
	" " "	Folkestone Foord	334	30
	Thanet East	Central Eastcliffe	337	27
	" "	Central Westcliffe	340	27
15-21 Sept.	Canterbury	Blean Forest	302	32
	"	Heron	305	29
	Ashford	Rolvenden	308	31
	"	Bethersden	311	28
	Dover & Deal	St. Radigunds	314	29
	" " "	Little Stour	317	29
	Thanet West	Thanet Parishes	320	30
	" "	Cliftonville (E)	323	28
	Faversham	Queensborough & Halfway	326	31
	"	Hartlip & Upchurch	329	33
	Folkestone & Hythe	New Romney	332	30
	" " "	Folkestone Harvey	335	26
	Thanet East	St. Lawrence	338	29
22-28 Sept.	Canterbury	Gorrell	303	28
	"	St. Stephens	306	30
	Ashford	Chilham	309	29
	"	Kingsworth	312	29
	Dover & Deal	Maxton & Elmsvale	315	30
	" " "	Sandwich	318	29
	Thanet West	Birchington E.	321	30
	Faversham	St. Anns	334	28
	"	Eastern	327	
	Folkestone & Hythe	Saltwood & Newington	330	28
		St. Mary in the Marsh	333	33
	Thanet East	Kingsgate	336	
		Newington	339	31

Q.1. About 3 or 4 times a week.

Q.2. In past 7 days.

DIARY SECTION

Yesterday (Friday)

Q.A. Yes

Q.B. At lunchtime, that was between 1 and 2 o'clock

Q.C. Yes

Q.B. I had another drink in the pub in the evening after work that was at 6 to 7 o'clock.

Q.C. Yes

Q.B. I then went for a meal at about 8 o'clock and stayed there until 10.30.

(MAKE SURE INTERVIEWER TREATS IT AS TWO PERIODS ONLY).

First Period

Q.D. I have two halves of beer (PROMPT) It was draught beer. No I had nothing else.

Q.E. I was in the local pub.

Q.F. With others

Q.G. Workmates.

Second Period

Q.D. Well I first of all drank two halves of beer followed by a gin and tonic. (PROMPT) It was draught beer. (PROMPT) It was a single measure of gin. In the restaurant I drank half a bottle of wine then finished the evening with a port. (PROMPT) It was a small port.

Q.E. In the pub and then in the restaurant.

Q.G. Workmates and then I went for a meal with my husband.

2 Days Ago (Thursday)

Q.A. I think I did. (Wait for interviewer to probe to jog memory). I went out
Q.B. in the evening for a drink. It was between 8.30pm to about 11 o'clock.

Q.C. No.

Q.D. 2 pints of beer and then I had a couple of vodka and tonics. (PROMPT) It was draught beer. (PROMPT) They were single measures of vodka.

Q.E. In the pub.

Q.F. With others

Q.G. Friends and my husband.

3 Days Ago (Wednesday)

Q.A. No I didn't have an alcoholic drink that day.

4 Days Ago (Tuesday)

Q.A. I can't remember (Waid for interview to probe ... answer her questions) ...I remember now, I went for a drink at lunchtime with some people at work.

Q.B. It was between 1 and 2 o'clock.

Q.C. No I played squash in the evening so I didn't drink anything.

Q.D. I drank a couple of halves of lager. (PROMPT) It was draught lager. No I had nothing else.

Q.E. I was in the pub

Q.F. With others

Q.G. Workmates

5 Days Ago (Monday)

Q.A. No I don't think I drank on that day. INTERVIEWER PROBE: ... No I'm certain I didn't have anything alcoholic to drink.

6 Days Ago (Sunday)

Q.A. Last Sunday, what was I doing then. INTERVIEWER PROBE ... I was gardening in the morning, it was such a nice day I sat outside and had lunch. ... Yes I had a can of lager.

Q.B. About 3.to 3.30.

Q.C. Yes

Q.B. About 7.30 to 8 o'clock

Q.C. I drank no more that day.

First Drinking Period

Q.D. As I said a can of lager. It was Heineken in a large can. Yes the 15oz size. I didn't have anything else

Q.E. At home

Q.F. On my own

Second Drinking Period

Q.D. I had a gin and tonic. It was a large measure. No I had nothing else.

Q.E. At home

Q.F. On my own.

7 Days Ago (Last Saturday)

Q.A. Last Saturday oh it was Pete's birthday. Yes, I had a lot to drink that day.

Q.B. We started at lunchtime at about 12.30 and stayed in the pub until about 2.30.

Q.C. Yes, in the evening.

Q.B. About 8 till about 2am.

First Drinking Period.

Q.D. I drank about four pints of lager. Draught lager. I had nothing else then.

Q.E. In the pub.

Q.F. With others

Q.G. Husband and some friends.

Second Drinking Period

Q.D. We went to the pub where I must have had about 2 gin and tonics - They were single measures.
Then we went to a restaurant where I drank about half a bottle of wine.
Afterwards we went to a party where I drank wine. At the party I probably had about 3 glasses - standard size.
Oh yes, I also had a drambuie at the restaurant, I forgot about that.
No. That's the lot.

Q.E. In the pub, then a restaurant and then to a party at a friends home.

Q.F. With others

Q.G. With my husband and friends.

Q.3 Yes that's fairly typical I suppose

Q.4. -

Q.5. Yes

Q.6. About once a month ... that is more than 20 less than 50 times

Q.7a Yes

Q.7b Well definitely round Christmas time.

Q.8 Probably more than once but less than 10 times.

SECTION 2

Q.9 ...yes. (WAIT FOR PROBING) Oh likely. (GO THROUGH STATEMENTS ACCORDINGLY).

Q.10. Oh about the same as me. WAIT FOR INTERVIEWER TO COMMENT ON ANSWER
Answer statements accordingly.

Q.11 Why do you want to know all this sort of information. (WAIT TO BE PACIFIED BY INTERVIEWER) Then asnwer Q.11/Q.12

SECTION 3

Should not be asked.

SECTION 4

Q.15. Answer accordingly. On some statements state ... well it depends - on some occasions I approve and other occasions I disapprove.

Q.16a What do you mean by drunken people (WAIT FOR INTERVIEWER'S REPLY) ... Yes.

Q.16b. About 3 or 4 times a week.

Q.17 What do you mean by the word alcoholic. (WAIT FOR INTERVIEWER TO REPLY) Yes

Q.18 My uncle was until recently and there is also my next door neighbour.

Q.19 There's Alcoholics Anonymous and of course the Church.

Q.20 Doctors .. what is the Council on Alcoholism ...WAIT FOR INTERVIEWER TO RESPOND TO QUESTION ... the AA (as I've said), Unit for Treatment of Alcoholism.

Q.21. I don't really know anything about this subject... WAIT FOR INTERVIEWER TO REPLY

Answer statements accordingly.

Q.22. Classification

NON-ELECTOR SHEET

Using the address serial number tick the box next to that number below. Write in alphabetical order the name of each non-elector in household. If none write in 'none' in the first column. Tick selected non-electors if interviewed. If non-contact, please cross (X) beside name.

ADDRESS SERIAL NO.	TICK APPROPRIATE BOX BELOW	NAMES (SURNAME & CHRISTIAN NAMES) OF NON-ELECTORS IN HOUSEHOLD (IN ALPHABETICAL ORDER) 1	2	3	4	5	6	NO. OF NON-ELECTORS IN HOUSEHOLD 1	2	3	4	5	6+
1/21								1	2	2	2	4	4
2/22								1	1	3	3	5	5
3/23								1	2	1	4	1	6
4/24								1	1	2	1	2	1
5/25								1	2	3	2	3	2
6/26								1	1	1	3	4	3
7/27								1	2	2	4	5	4
8/28								1	1	3	1	1	5
9/29								1	2	1	2	2	6
10/30								1	1	2	3	3	1
11/31								1	2	3	4	4	2
12/32								1	1	1	1	5	3
13/33								1	2	2	2	1	4
14/34								1	1	3	3	2	5
15/35								1	2	1	4	3	6
16/36								1	1	2	1	4	1
17/37								1	2	3	2	3	2
18/38								1	1	1	3	1	3
19/39								1	2	2	4	2	4
20/40								1	1	3	1	3	5

ADDRESS CONTACT SHEET

REGION: ---------- SAMPLING POINT NO.: (6) (7) (8)

CONSTITUENCY: ---------- ADDRESS SERIAL NO.: (9/10)

WARD: ----------

ADDRESS: ----------

Are there any non-electors living at this address? (11) Yes ---------- 1 No ---------- 2

NAME ON SAMPLE SHEET:

RECORD OF CALLS CALL	DATE	TIME	RESULT
1			
2			
3			
4			
5			
6			

TOTAL No. OF CALLS MADE AT ABOVE ADDRESS: WRITE IN (12)

OUTCOME OF FINAL CALL (13)

Contact - Interview completed ---------- 1
Interview partly completed --- 2

Non-Contact (14)

Refused (write in reason) ---------- 1
Moved ---------- 2
Dead ---------- 3
Too ill/incapacitated ---------- 4
In hospital ---------- 5
Senile ---------- 6
No English spoken ---------- 7
Home demolished/empty ---------- 8
Not available during survey period ---- 9
Never in ---------- 0

ELECTOR IS: Male ---------- (15) 1
Female ---------- 2

TOTAL NUMBER OF COMPLETED INTERVIEWS AT THIS ADDRESS: One ----- 1 (20) Two ----- 2

INTERVIEWER NAME: ---------- INT. NO.: (22) (23) (24) (25)

NAME OF SELECTED NON-ELECTOR: (see overleaf)

RECORD OF CALLS CALL	DATE	TIME	RESULT
1			
2			
3			
4			
5			
6			

TOTAL No. OF CALLS MADE AT ABOVE ADDRESS: WRITE IN (16)

OUTCOME OF FINAL CALL (17)

Contact - Interview completed ---------- 1
Interview partly completed --- 2

Non-Contact (18)

Refused (write in reason) ---------- 1

Too ill/incapacitated ---------- 4
In hospital ---------- 5
Senile ---------- 6
No English spoken ---------- 7

Not available during survey period ---- 9
Never in ---------- 0 (19)

NON-ELECTOR IS: Male ---------- 1
Female ---------- 2

INTERVIEW(S) COMPLETED WITH: Elector ----- 1 (21)
Non-Elector - 2

DATE: ------- 1982.
(22) (23) (24) (25)

SRA/7977

SHOWCARD A

ALMOST EVERY DAY

3 OR 4 TIMES A WEEK

1 OR 2 TIMES A WEEK

ABOUT ONCE A FORTNIGHT

ONCE A MONTH

ONCE EVERY 3 OR 4 MONTHS

ABOUT TWICE A YEAR

ABOUT ONCE A YEAR

LESS THAN ONCE A YEAR

HAVE NEVER HAD A DRINK CONTAINING ALCOHOL

SRA/7977

SHOWCARD B

OVER 24 MONTHS AGO

OVER 12 MONTHS AGO UP 24 MONTHS AGO

OVER 9 MONTHS AGO UP TO 12 MONTHS AGO

OVER 6 MONTHS AGO UP TO 9 MONTHS AGO

OVER 3 MONTHS AGO UP TO 6 MONTHS AGO

OVER 1 MONTH AGO UP TO 3 MONTHS AGO

OVER 7 DAYS BUT UP TO 1 MONTH AGO

IN PAST 7 DAYS

SHOWCARD C1

8 UNITS IS EQUAL TO:

4 Pints (or 5x15 oz cans) of Mild, Bitter, Lager, Cider

1½ Pints (or 2x15 oz cans) of Carlsberg Special Brew

8 small glasses (or 1 bottle 70 cl) of Table Wine

8 standard measures of Martini, Sherry, Port

8 standard glasses (two third bottle) of Lanliq, Eldorado, etc.

8 single measures (one quarter bottle) of any spirit

OR ANY COMBINATION OF THE ABOVE

E.g, 2 pints of bitter and 4 standard glasses of whisky = 8 units

4 standard measures of sherry and ½ bottle of wine = 8 units

SHOWCARD C2

14 UNITS IS EQUAL TO:

7 pints (or 9x15 oz cans) of Mild, Bitter, Lager, Cider

3 pints (or 3½x15oz cans) of Carlsberg Special Brew

14 small glasses (or 2 bottles 70 cl) of Table Wine

14 standard measures of Martini, Sherry, Port

14 standard glasses (or approx. 1 bottle) of Lanliq, Eldorado

14 single measures (or ½ bottle) of spirits

OR ANY COMBINATION OF THE ABOVE

E.g, 5 pints of bitter and 4 standard glasses of whisky = 14 units

6 standard measures of sherry and 1 bottle (70cl) of Table Wine = 14 units

SRA/7977

SHOWCARD D

ONE DAY ONLY (ONCE ONLY)

MORE THAN 1 LESS THAN 10 (MORE THAN ONCE - UP TO ONCE EVERY THREE MONTHS)

MORE THAN 10 LESS THAN 20 (ONCE EVERY TWO MONTHS)

MORE THAN 20 LESS THAN 50 (ONCE A MONTH)

MORE THAN FIFTY (ONCE EVERY 2 WEEKS OR MORE OFTEN)

SRA/7977

SHOWCARD E

VERY LIKELY

LIKELY

NOT LIKELY

SRA/7977

SHOWCARD F

APPROVE

NEITHER APPROVE NOR DISAPPROVE

DISAPPROVE

SRA/7977

SHOWCARD G

ALMOST EVERY DAY

3 OR 4 TIMES A WEEK

1 OR 2 TIMES A WEEK

ABOUT ONCE A FORTNIGHT

ONCE A MONTH

ONCE EVERY 3 TO 4 MONTHS

ABOUT TWICE A YEAR

ABOUT ONCE A YEAR

SRA/7977

SHOWCARD H

THEIR OWN DOCTOR (GP)

SOCIAL WORK AGENCY

COUNCIL ON ALCOHOLISM

ALCOHOLICS ANONYMOUS

PSYCHIATRIST

GENERAL HOSPITAL

UNIT FOR TREATMENT OF ALCOHOLISM

DRINK WATCHER

SALVATION ARMY

CLERGY

OTHER (PLEASE SPECIFY)

SRA/7977

SHOWCARD I

DISAGREE

NEITHER AGREE NOR DISAGREE

AGREE

SHOWCARD J

DEFINITION OF REGIONS

HIGHLANDS & ISLANDS

CAITHNESS
NAIRN
SUTHERLAND
ARGYLL (ARDNAMURCHAN/BALLACHULSH/KINLOCHLEVEN)
INVERNESS
SKYE
MORAY (GRANTON ON SPEY/CROMDALE DISTRICT)
ROSS & CROMARTY
BARRA
HARRIS
UIST (NORTH & SOUTH)
STORNAWAY
LEWIS

TAYSIDE

DUNDEE
ANGUS
KINROSS
PERTH (except CALLANER, DOUNE, DUNBLANE)
PERTH WESTERN DISTRICT (except ARDOCH)
PERTH MUCKHART

KENT

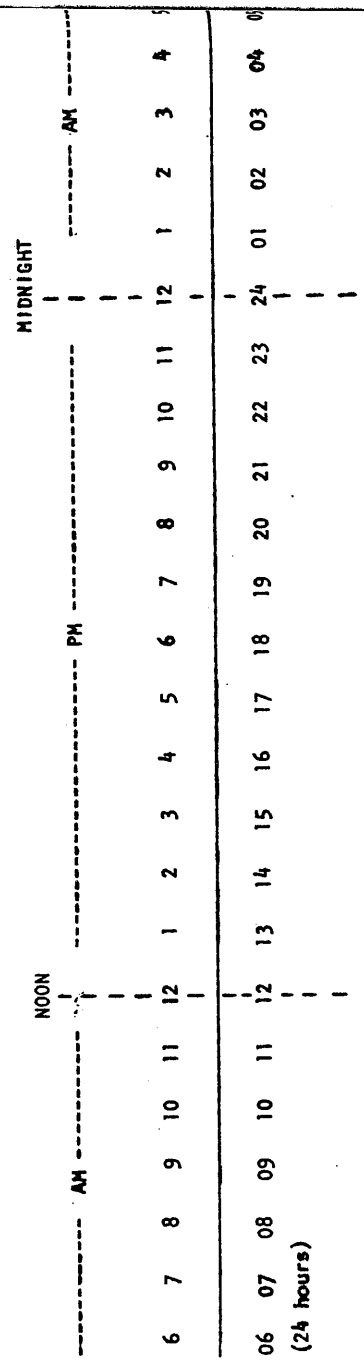
CANTERBURY
ASHFORD
FAVERSHAM
THANET EAST/WEST
FOLKESTONE
HYTHE
DOVER & DEAL

SHOWCARD K

CODE LETTER		COLUMN A Weekly AFTER Tax	COLUMN B Monthly AFTER Tax	COLUMN C Anually BEFORE Tax
E	Less than	£26	£111	£2000
A	between	£26 - £51	£111 - £222	£2000 - £3999
F	between	£51 - £77	£222 - £333	£4000 - £5999
I	between	£77 - £103	£333 - £444	£6000 - £7999
B	between	£103 - £128	£444 - £555	£8000 - £9999
G	between	£128 - £154	£556 - £667	£10000 - £11999
J	between	£154 - £179	£667 - £778	£12000 - £13999
C	between	£179 - £205	£778 - £889	£14000 - £15999
H	between	£205 - £231	£889 - £1000	£16000 - £17999
K	between	£231 - £256	£1000 - £1111	£18000 - £19999
D	more than	£256+	£1111+	£20000+

DRINK	QUANTITY	ALCOHOL UNITS
Ordinary Bitter - Mild/Bitter/HEAVY	½ pint	1
(e.g, Courage, Bass, Tartan, Watneys, I.P.A. etc)	1 pint	2
Ordinary Lager	1 small can (10 oz)	1
(Harp, Tennets, Carling, Carlsberg, Skol, etc)	1 large can (15 oz)	1½
	1 bottle (½ pint)	1
	1 bottle (pint)	2
Cider (Bulmers etc)	1 bottle (litre cider)	4
Strong Ale	½ pint	2
(Greene King Strong Ale, Theakstons Old Peculiar, Fullers E.S.B.)	1 pint	4
Strong Lager	½ pint	2½
(Carlsberg Special Brew, Tennents Super Lager)	1 pint	5
	1 can (15 oz)	4
Table Wine	1 small glass (i.e, 8 to a bottle)	1
	1 average size glass	1½
	1 large glass	2
	¼ bottle (70 cl)	2
	½ bottle (70 cl)	4
	Standard bottle (70 cl)	7½
	½ bottle (litre)	5½
	Bottle (litre)	11
	Bottle (1½ litres)	16½
Fortified Wine	1 Standard measure	1
(Martini, Sherry, Madeira, Port)	1 Large measure	2
Scotland: (Lanliq, Eldorado, Buckfast, 4 Crown)	¼ bottle (70 cl)	3
	½ bottle (70 cl)	6½
	Bottle (70 cl)	12½
	Bottle (litre)	18
Spirits	1 single measure	1
(Whisky, Gin, Rum, Vodka)	1 large measure	2
	¼ bottle (26 oz)	7½
	½ bottle (26 oz)	15½
	Bottle (26 oz)	31
	Bottle (40 oz) (1 litre)	42
liqueur	1 single measure	1.

THE CLOCK



SRA/7977 Q.B.

SAMPLING POINT NO - 610

SUPERVISOR

CONSTITUENCY PUTNEY NO. WARD WEST HILL (05) SURVEY A1

	SURNAME	FORENAME	ADDRESS:	ELECTORS	
1	Blythe	John	5, Mexfield Road	2	
2	Brown	Steven	9, Mexfield Road	2	
3	Carly	Jackie	15 Mexfield Road	1	
4	Graham	Philip	21, Mexfield Road	3	
5	Segar	Joan	6, Ringwood Road	1	
6	Walters	Claire	12, Ringwood Road	4	
7	Moon	Anne	16, Ringwood Road	2	
8	Reed	Mark	22, Ringwood Road	1	
9	Lacey	Susan	77, Amersham Road	2	
10	Rogers	Paul	85, Amersham Road	2	
11	Chalmers	Peter	91, Amersham Road	1	
12	Wood	Gillian	97, Amersham Road	1	
13	Flood	Brian	103 Amersham Road	3	
14	Collins	Roger	277, London Road	1	
15	Matthews	Betty	285, London Road	2	
16	Davis	Christine	293, London Road	2	

Please write down queries or problems you have with the survey here.

PROBLEM SHEET

SRV/7377

DRINKING SURVEY

SURVEY RESEARCH ASSOCIATES LIMITED Tower House, Southampton Street, London, WC2E 7HN	Tele. no. 01-240 0098	'SRA/7977'	DAILY PROGRESS SHEET	Return DAILY to your AFO	INTERVIEWER'S NAME	INT'S NO.	DATE

SAMPLING POINT NO.			CALL NO. (write in)	RESULT		CODE 1 for ELECTOR 2 FOR NON-EL.	Occupation of Head of Household	QUALITY CONTROL Remarks and Signatures
HOUSEHOLD NO.				CONTACT	NON-CONTACT			
SERIAL NO.	ADDRESS	INFORMANT'S						
		Name:		Int. comp.-1 Int. partly comp. --- 2	Refused 1 Senile -- 6 Moved -- 2 No. Eng.- 7 Dead --- 3 House Dem. Too ill 4 Empty -- 8 In Hosp. 5 Not avail. 9 Never in 0	1 2	Position: Industry:	Postal check
		Tel. no.						
		Name:		Int. comp.-1 Int. partly comp. --- 2	Refused 1 Senile -- 6 Moved -- 2 No Eng. - 7 Dead --- 3 House Dem. Too ill 4 Empty -- 8 In Hosp. 5 Not avail.9 Never in 0	1 2	Position: Industry:	Postal check
		Tel. no.						
		Name:		Int. comp.-1 Int. partly comp. --- 2	Refused 1 Senile -- 6 Moved -- 2 No Eng. - 7 Dead --- 3 House Dem. Too ill 4 Empty -- 8 In Hosp. 5 Not avail.9 Never in 0	1 2	Position: Industry:	Postal check
		Tel. no.						
		Name:		Int. comp.-1 Int. partly comp. --- 2	Refused 1 Senile -- 6 Moved -- 2 No Eng. - 7 Dead --- 3 House Dem. Too ill 4 Empty -- 8 In Hosp. 5 Not avail.9 Never in 0	1 2	Position: Industry:	Postal check
		Tel. no.						
		Name:		Int. comp.-1 Int. partly comp. --- 2	Refused 1 Senile -- 6 Moved -- 2 No Eng. - 7 Dead --- 3 House Dem. Too ill 4 Empty -- 8 In Hosp. 5 Not avail. 9 Never in 0	1 2	Position: Industry:	Postal check
		Tel. no.						

UJK Survey Research Associates Limited Tower House Southampton Street London WC2E 7HN Telephone 01-240 0098

September 1982

Dear Sir

This is to introduce ..... who is a trained interviewer working on behalf of Survey Research Associates Limited. We are conducting a major study in your area for Edinburgh University on people's attitudes towards drink and their drinking habits and will be calling on a number of people in your Police District over the next few weeks.

If you have any queries about the study please do not hesitate to telephone either myself of my colleague, Miss Zoe Dewfield, on 01-240 0098.

Yours faithfully

M. Michael J Cooke

Michael Cooke
Director

MC:CB

IJK Survey Research Associates Limited Tower House Southampton Street London WC2E 7HN Telephone 01-240 0098

September 1982

Dear Sir or Madam

This is to introduce ..... who is a trained interviewer working on behalf of Survey Research Associates Limited. We are conducting a major study in this area for Edinburgh University on people's attitudes towards drink and their drinking habits.

Your name has been selected purely at random from the electoral register. I hope you will be kind enough to be interviewed on this survey. All the information collected in the interview will be treated in the strictest confidence.

We have notified your local police station to inform them that we are conducting this study. If you have any queries about the study please do not hesitate to telephone either myself, or Miss Zoe Dewfield, on 01-240 0098.

Yours sincerely

Michael Cooke
Director

MC:CB

ALCOHOL RESEARCH GROUP
University of Edinburgh
EDINBURGH.
EH10 5HF

TELEPHONE No. 031-447 2011

SURVEY ON DRINKING HABITS AND ATTITUDES

Thank you for participating in this survey which is being carried out by the Alcohol Research Group, University of Edinburgh. You have been chosen completely at random, and neither your name nor your address will be disclosed to anyone outside the Alcohol Research Group. The information given in the survey will be treated as STRICTLY CONFIDENTIAL and the results presented in such a way that no individual can be identified.

If you have any further queries, contact

Alex Crawford (031) 447-2011, Ext. 371.

Thank you very much for your help.

APPENDIX H : Introductory materials employed in follow up study

The follow-up survey was conducted in three phases (see Appendix B). Respondents were initially posted a copy of the questionnaire (Appendix J), a stamped and addressed envelope, and letter H1. Two weeks later identical materials were posted, this time accompanied by letter H2. A further two weeks later those persons who had not replied to the postal surveys, and who were listed in a telephone directory, were telephone interviewed. The interviewer employed the preamble listed in H3.

H 1

ALCOHOL RESEARCH GROUP

UNIVERSITY DEPARTMENT OF PSYCHIATRY
(ROYAL EDINBURGH HOSPITAL)
MORNINGSIDE PARK
EDINBURGH.
EH10 5HF

TELEPHONE No. 031-447 2011

1983 Survey of Community Drinking Habits

The Alcohol Research Group is carrying out a survey of drinking habits in your area. In order to do this a representative list of people has been chosen from the Electoral Register.

You are one of the people selected for this study. It would be greatly appreciated if you would complete the very short questionnaire that is enclosed. This is quite a simple task. All the information that you provide will be treated in the strictest confidence. Your help is essential if a truly representative picture of local drinking habits is to be produced. (This means that we are just as interested in people who don't drink as we are in those who do drink.)

My colleagues and I will be happy to provide any further details you may require and to discuss this with you. For further information please contact Mr. Alex Crawford at the above address or by telephoning 031-447-2011, Ext. 509 between the hours of 10 a.m. and 4 p.m.

A stamped addressed envelope is enclosed to enable you to return the questionnaire once you have completed it.

Thank you for your attention.

Yours sincerely,

H2

Alcohol Research Group,
University Department of
Psychiatry,
Royal Edinburgh Hospital,
Morningside Park,
Edinburgh EH10 5HF

Tel. 031-447-2011 ex. 509

27th April, 1983

Dear

1983 Survey of Community Drinking Habits

Two weeks ago I wrote to you seeking your assistance with a survey of drinking habits that is being conducted in your area.

Your help with this venture will be very much appreciated. I enclose a second copy of a short questionnaire. This will only take a couple of minutes of your time, is painless and confidential.

The information that we are collecting from this survey is intended to provide a picture of the normal drinking habits of people in your community. This means that whether you drink alcohol or abstain we shall be extremely interested in your reply. I hope very much that you will be able to assist us with this project and thank you in anticipation.

Yours sincerely,

APPENDIX H.3 : Preamble to telephone interview

Hello, I'm _____ . I'm phoning on behalf of Edinburgh University. You recently received a letter from our unit which said that we would like you to take part in a telephone survey of people's drinking habits. You were selected entirely by chance from the Electoral Register for our original survey which was conducted last September. Unfortunately you were never available at the time. Because we wish to obtain an accurate picture of people's drinking habits in your area, we would be grateful if you would take part. (INTERVIEWER : If respondent says (s)he doesn't drink/know anything about alcohol, you should explain that (1) it isn't a test of general knowledge (2) we are interested in non-drinkers as well as drinkers). Everything you say will be treated confidentially, nothing will be passed on to anyone else. The interview should take about five minutes.

APPENDIX I : Questionnaire used in main survey

ALCOHOL RESEARCH GROUP, EDINBURGH UNIVERSITY

CARD NO. 0 1 (10)(11)

DRINKING SURVEY

NAME OF RESPONDENT: ----------

ADDRESS OF RESPONDENT: ----------

TELEPHONE NO. (IF ANY): ----------

REGION: ---------- SAMPLING POINT NO.: (12)(13)(14)

CONSTITUENCY: ---------- ADDRESS SERIAL NO.: (15)(16)

WARD: ----------

OUTCOME OF INTERVIEW (17)

Interview completed ---------- 1
Interview partly completed ---------- 2

NO. OF ELECTORS ON REGISTER AT HOUSEHOLD

Ring: 1 2 3 4 5 6 7 8 9+ (18)

NO. OF NON-ELECTORS AT HOUSEHOLD

Ring: 0 1 2 3 4 5 6 7 8 9+ (19)

ELECTOR OR NON-ELECTOR (20)

Respondent is an elector ---------- 1
Respondent is a non-elector ---------- 2

NO. OF CALLS MADE AT ADDRESS TO ACHIEVE INTERVIEW

Write in: [ ] (21)

TOTAL NO. OF INTERVIEWS COMPLETED AT THIS ADDRESS (22)

One ---------- 1
Two ---------- 2

DATE OF INTERVIEW

DATE [ ][ ] (23)(24) MONTH [ ][ ] (25)(26)

DAY (27)
Mon ------ 1
Tue ------ 2
Wed ------ 3
Thur ----- 4
Fri ------ 5
Sat ------ 6
Sun ------ 7

TIME INTERVIEW STARTED

(Use 24 hour clock to nearest hr)

(28)(29)(30)(31) [ ][ ][ ][ ]

TIME INTERVIEW TOOK

(32)(33) [ ][ ] minutes

INTERVIEWER DECLARATION

I confirm that I personally carried out this interview face-to-face with the above named person, at the above address, and that I asked all relevant questions and fully record the answers in full conformance with the survey specifications.

(34)(35)(36)(37) Interviewer No. [ ][ ][ ][ ]

SIGNED: .....

DATE: 1982

SECTION I

Good morning/afternoon/evening. I am calling on behalf of Survey Research Associates. We are undertaking a major study, in this area, for Edinburgh University on people's attitudes towards drink and their drinking habits, and have selected your home, purely at random, from the electoral register.

ASK ALL

Q.1 **SHOWCARD A**

How often do you usually have a drink containing alcohol? CODE ONE ONLY

Almost every day	1	ASK Q.2.
3 or 4 times a week	2	
1 or 2 times a week	3	
About once a fortnight	4	
Once a month	5	
Once every 3 or 4 months	6	
About twice a year	7	
About once a year	8	
Less than once a year	9	
Have never had a drink containing alcohol	0	GO TO SECTION 3 ON PAGE 20

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Q.2 **SHOWCARD B**

Starting yesterday, how long has it been since you last had a drink containing alcohol?

In past 7 days	1	GO TO PREAMBLE BELOW
Over 7 days but up to 1 months ago	2	
Over 1 month ago up to 3 months ago	3	
Over 3 months ago up to 6 months ago	4	GO TO Q.4 ON PAGE 17
Over 6 months ago up to 9 months ago	5	
Over 9 months ago up to 12 months ago	6	
Over 12 months ago up to 24 months ago	7	GO TO SECTION 3 ON PAGE 20
Over 24 months ago	8	

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PREAMBLE

I would like you to think back across the last 7 days and try and remember the occasions on which you had an alcoholic drink. Firstly, starting with yeaterday ... (ASK Q.A. ON NEXT PAGE.)

CARD NO. 0 2 (10-11)

YESTERDAY WAS... SUN 1 SAT 2 FRI 3 THU 4 WED 5 TUE 6 MON 7 (12)

Q.A Did you have an alcoholic drink at any time on ...DAY - for example at lunch-time, in the evening or just before going to bed?

(13)
YES ---------- 1 CONTINUE AT Q.B. BELOW
NO ---------- 2 GO TO NEXT DAY AND REPEAT

Q.B Looking at this clock can you tell me to the nearest half hour the period when you first (next) had something alcoholic to drink? PROBE: About what time did you start to drink and when did you finish drinking?
INTERVIEWER: Using the 24 hour clock record when the drinking period started and finished to the nearest half hour.

	FIRST DRINKING PERIOD	CARD NO. 0 3 (10-11) SECOND DRINKING PERIOD	CARD NO. 0 4 (10-11) THIRD DRINKING PERIOD
STARTED	(14)(15)(16)(17)	(14)(15)(16)(17) (Dup C.12-13)	(14)(15)(16)(17) (Dup C.12-13)
FINISHED	(18)(19)(20)(21)	(18)(19)(20)(21)	(18)(19)(20)(21)

REMEMBER: A GAP OF TWO HOURS IS NEEDED BETWEEN DIFFERENT DRINKING PERIODS

Q.C Did you have an alcoholic drink at any other time on ...DAY?

	(22)	(22)	(22)
	YES .. 1 ASK Q.B AGAIN NO .. 2 ASK Q.D	YES .. 1 ASK Q.B AGAIN NO .. 2 ASK Q.D	YES .. 1 ASK Q.D NO .. 2 ASK Q.D

ASK Q.D TO Q.G FOR EACH DRINKING PERIOD

Q.D How much alcohol did you have to drink in your first (next) period of drinking, that is between ... & ... hours?
PROBE: For exact type of drink and amount consumed, eg exact can size, bottle size, glass size or measure.
PROBE: Did you drink anything else alcoholic? PROBE: For exact type, amount, until all drinks mentioned.
INTERVIEWER: Write in full amount drunk next to the drink mentioned. Using the Conversion Table code total number of units to the nearest half unit for each type of drink in the spaces provided.

EXAMPLE:
BEER: 2½pts = 5 units Code: 0 5 0
WINE: 1 bottle (70 cl) = 7½ units Code: 0 7 5

	AMOUNT	UNITS	AMOUNT	UNITS	AMOUNT	UNITS
ORDINARY BEER/LAGER/CIDER	.....	(23 - 25)	.....	(23 - 25)	.....	(23 - 25)
STRONG ALE	.....	(26 - 28)	.....	(26 - 28)	.....	(26 - 28)
STRONG LAGER	.....	(29 - 31)	.....	(29 - 31)	.....	(29 - 31)
TABLE WINE	.....	(32 - 34)	.....	(32 - 34)	.....	(32 - 34)
FORTIFIED WINE	.....	(35 - 37)	.....	(35 - 37)	.....	(35 - 37)
SPIRITS	.....	(38 - 40)	.....	(38 - 40)	.....	(38 - 40)
OTHER (SPECIFY TYPE AND AMOUNT & TICK FIRST BOX - DO NOT CODE)	..... (41) (42 - 44)		..... (41) (42 - 44)		..... (41) (42 - 44)	

Q.E Where were you drinking between ... & ... hours? TICK APPROPRIATE BOXES

OWN HOME	(45)	(45)	(45)
FRIEND'S/RELATIVE'S HOME	(46)	(46)	(46)
BAR (PUB/WINE/HOTEL)	(47)	(47)	(47)
CLUB	(48)	(48)	(48)
RESTAURANT/AT A DANCE	(49)	(49)	(49)
AT WORK	(50)	(50)	(50)
OTHER (TICK & WRITE IN)	(51)	(51)	(51) .....

Q.F Were you drinking by yourself or were you drinking with other people?

	(52)	(52)	(52)
DRINKING BY SELF	1 GO TO FILTER BELOW	1 GO TO FILTER BELOW	1 GO TO Q.H
DRINKING WITH OTHERS	2 ASK Q.G	2 ASK Q.G	2 ASK Q.G

Q.G Who else was in your group? TICK APPROPRIATE BOXES

SPOUSE/CO-HABITEE	(53)	(53)	(53)
RELATIVES	(54)	(54)	(54)
FRIENDS	(55)	(55)	(55)
WORKMATES	(56)	(56)	(56)
OTHER (TICK & WRITE IN)	(57)	(57)	(57) .....
	NOW GO BACK TO Q.D FOR NEXT DRINKING PERIOD - IF NO OTHER GO TO NEXT DAY		NOW GO TO Q.H.

Q.H. Did you have anything else alcoholic to drink at any other time on ...DAY?

Yes ---------- 1 ASK Q.I.
No ---------- 2 GO TO NEXT DAY

Q.I. What else alcoholic did you have to drink on ...DAY?
PROBE: for exact type, amount, until all drinks mentioned.
INTERVIEWER: Write full amount next to each drink mentioned. Using the conversion table code total number of units of each type of drink in the spaces provided.

	AMOUNT	UNITS	
ORDINARY BEER/LAGER/CIDER	.....		23/24/2
STRONG ALE	.....		26/27/2
STRONG LAGER	.....		29/30/3
TABLE WINE	.....		32/33/3
FORTIFIED WINE	.....		35/36/3
SPIRITS	.....		38/39/4
OTHER (SPECIFY TYPE & AMOUNT AND TICK 1ST BOX - DO NOT CODE)	.....	OFFICE USE	41
	.....( )		42/43/4

Repeat for the last seven days

0 5 (10)(11)
DUP COL 12 - 13
SKIP TO COL 22
22

ASK ALL WHO HAVE DRUNK IN THE LAST 7 DAYS

Q.3 Was the last 7-day period typical of the amount of alcohol you would normally drink in a 7-day period?
PROMPT IF NECESSARY

Last 7 days typical	1	12
There is no typical 7-day period	2	NOW GO TO Q.5.
Last week drank more than usual	3	
Last week drank less than usual	4	

ASK ALL WHO HAVE DRUNK IN THE LAST YEAR BUT NOT IN THE LAST 7 DAYS (Q.2 - CODES 2-6)

Q.4 I would like you to think about the last day when you had an alcoholic drink. Can you tell me, in total, how much alcohol you drank on that day?
PROBE: For each type and amount drunk, eg can size, bottle size, glass size, measure size. PROBE: Did you have anything else to drink on that day?
PROMPT - USING TIMES OF DAY, ETC.

INTERVIEWER: WRITE AMOUNT IN FULL NEXT TO DRINK TYPE AND CODE NUMBER OF UNITS USING THE CONVERSION TABLE

	AMOUNT	NO. OF UNITS	
Ordinary beer/lager/cider			13/14/15
Strong ale			16/17/18
Strong lagers			19/20/21
Table wine			22/23/24
Fortified wine			25/26/27
Spirits			27/29/30
Other (write in type & amount and tick box - do not code no of units)		OFFICE USE	31
	( )		32/33/34

ASK ALL RESPONDENTS WHO HAVE DRUNK IN THE PAST 12 MONTHS (Q.2. - CODES 1-6)

Q.5 SHOWCARD C1
Here is a list showing different alcoholic drink in terms of units of alcohol. By looking at this list can you tell me whether there has been a day in the past 2 years where you have drunk 8 units of alcohol or more?

Yes	1	ASK Q.6
No	2	GO TO SECTION 2 ON PAGE 18

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Q.6 SHOWCARD D
In the past two years about how many times have you drunk 8 units of alcohol or more?

One day only (once only)	1	
More than 1 less than 10 (more than once up to once every three months)	2	36
More than 10 less than 20 (once every two months)	3	
More than 20 less than 50 (once a month)	4	
More than fifty (once every 2 weeks or more often)	5	
Don't know	6	

Q.7 SHOWCARD C2
By looking at this list can you tell me whether there has been a day in the past two years when you have drunk 14 units of alcohol or more?

Yes	1	ASK Q.8.
No	2	GO TO SECTION 2 BELOW

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Q.8 SHOWCARD D
In the past two years about how many times have you drunk 14 units of alcohol or more?

One day only (once only)	1	
More than 1 less than 10 (more than once up to once every three months)	2	38
More than 10 less than 20 (once every two months)	3	
More than 20 less than 50 (once a month)	4	
More than fifty (once every 2 weeks or more often)	5	
Don't know	6	

SECTION 2

ASK ALL RESPONDENTS WHO HAVE DRUNK IN THE PAST 12 MONTHS (Q.2 - CODES 1-6)

Q.9 SHOWCARD E
I am going to read out some ways that people behave when they drink alcohol, using this card can you tell me when you have been drinking alcohol how likely you are to become .... INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

	NOT LIKELY		LIKELY		VERY LIKELY		DON'T KNOW	
( ) .. aggressive	1	-----	2	-----	3	-----	4	39
.. amorous (sexually aroused)	1	-----	2	-----	3	-----	4	40
.. relaxed	1	-----	2	-----	3	-----	4	41
.. friendly and sociable	1	-----	2	-----	3	-----	4	42
.. upset or depressed	1	-----	2	-----	3	-----	4	43
( ) .. cheerful	1	-----	2	-----	3	-----	4	44

Q.10 SHOWCARD E
Thinking of other people of your OWN age and sex, using this card, can you tell me when they have been drinking alcohol how likely they are to become ... INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX

	NOT LIKELY		LIKELY		VERY LIKELY		DON'T KNOW	
( ) .. aggressive	1	-----	2	-----	3	-----	4	45
.. amorous (sexually aroused)	1	-----	2	-----	3	-----	4	46
.. relaxed	1	-----	2	-----	3	-----	4	47
.. friendly and sociable	1	-----	2	-----	3	-----	4	48
.. upset or depressed	1	-----	2	-----	3	-----	4	49
( ) .. cheerful	1	-----	2	-----	3	-----	4	50

Q.11 Again, in the past two years has any of the following occurred the day after you have been drinking alcohol?
INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

	YES	NO	DON'T KNOW	
.. had a hangover or been under the weather	1	2	3	51
.. been unable to remember some of the things you did or said while drinking (eg 5 minutes or longer)	1	2	3	52
.. found your work/housework affected	1	2	3	53
.. felt ashamed of drinking so much	1	2	3	54
.. had shaking hands	1	2	3	55
.. within 3 hours of waking had a drink to help you relax, cure hangover	1	2	3	56

Q.12 In the past two years have you ....
INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

	YES	NO	DON'T KNOW	
.. seriously tried to cut down or stop drinking	1	2	3	57
.. reduced or stopped involvement in spare time hobbies or activities (include club membership, sports, spectating, reading, knitting) due to drinking	1	2	3	58
.. been criticised for your drinking by friends/relatives	1	2	3	59
.. felt restless or irritable without a drink	1	2	3	60

NOW GO TO SECTION 4 ON PAGE 21

SECTION 3

ASK ALL WHO HAVE NEVER DRUNK OR NOT DRUNK IN PAST 12 MONTHS (Q.1 CODE 0; OR Q.2 - CODES 7-8)

Q.13 I am interested in why you have never drunk or have not drunk recently. I will read a list of reasons which people often give for not drinking and I'd like you to tell me whether they apply to you or not.
INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX

	YES APPLIES	NO, DOES NOT APPLY	DON'T KNOW	
.. because of health reasons	1	2	3	61
.. for moral/religious reasons	1	2	3	62
.. for financial reasons	1	2	3	63
.. because you dislike the taste and/or smell of alcohol	1	2	3	64
.. because you are afraid of drink getting hold of you	1	2	3	65
.. because you saw bad effect on family or others	1	2	3	66
.. because you were brought up not to drink	1	2	3	67
.. because family/friends put pressure on you to stop drinking	1	2	3	68
.. because you got into trouble with the police or authorities through drinking	1	2	3	69
.. because drink interfered with your performance at work	1	2	3	70
.. because the people you associate with don't drink	1	2	3	71
.. because you did things due to drinking which you later regretted	1	2	3	72
.. because you are not interested in drinking alcohol	1	2	3	73
.. because you were drinking too much and decided to stop	1	2	3	74

Q.14 SHOWCARD E
Thinking of other people of your OWN age and sex, using this card, can you tell me when they have been drinking alcohol how likely they are to become ... INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

CARD NO. 3 1 (10) (11)

	NOT LIKELY	LIKELY	VERY LIKELY	DON'T KNOW	
.. aggressive	1	2	3	4	12
.. amorous (sexually aroused)	1	2	3	4	13
.. relaxed	1	2	3	4	14
.. friendly and sociable	1	2	3	4	15
.. upset or depressed	1	2	3	4	16
.. cheerful	1	2	3	4	17

Q.15 SHOWCARD F

I am going to read out some statements about drinking in general. For each statement, using this showcard, can you give me your opinion by stating whether you approve or disapprove. It does not matter if you do not know very much about drink and drinking, it is your impressions we are interested in. INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

	DISAPPROVE	NEITHER APPROVE NOR DISAPPROVE	APPROVE	DON'T KNOW	
☐ .. Working people drinking regularly at lunchtime	1	2	3	4	18
.. People keeping a supply of alcohol at home	1	2	3	4	19
.. Underage regular drinkers	1	2	3	4	20
.. Alcohol being sold in supermarkets	1	2	3	4	21
.. People drinking regularly at least 3 times a week	1	2	3	4	22
.. People allowing 12 year olds to sample drink	1	2	3	4	23
.. People drinking alone regularly	1	2	3	4	24
.. People drinking regularly with meals	1	2	3	4	25
.. Women drinking in pubs	1	2	3	4	26
.. Men occasionally getting drunk	1	2	3	4	27
.. Women occasionally getting drunk	1	2	3	4	28
.. Drunken people in the streets	1	2	3	4	29
.. People getting drunk at parties	1	2	3	4	30
.. People getting drunk at home	1	2	3	4	31
.. People planning to get drunk to celebrate	1	2	3	4	32
.. People getting drunk because of boredom, anxiety, etc	1	2	3	4	33
.. People getting drunk for no particular reason	1	2	3	4	34
☐ .. People driving after 1-2 drinks (1-2 ½pints, 1-2 glasses of wine/spirits)	1	2	3	4	35

Q.16a Do you ever see drunken people in public places?

Yes	1 ASK Q.16b	36
No	2 GO TO Q.17	

Q.16b SHOWCARD G

About how often would you say that you see drunken people in public places?

Almost every day	1	37
3 or 4 times a week	2	
1 or 2 times a week	3	
About once a fortnight	4	
Once a month	5	
Once every 3 - 4 months	6	
About twice a year	7	
About once a year	8	

Q.17 Have you ever personally known anyone who you would say was an alcoholic?
INTERVIEWER: If respondent has said he/she is/was an alcoholic ask 'apart from yourself'?

Yes	1 ASK Q.18	38
No	2 GO TO Q.19	

Q.18 Who were/are the person(s) you know to be alcoholic(s)? I mean are they friends, relatives or what? PROBE: How many are friends, relatives, etc?
WRITE THE NUMBER IN THE APPROPRIATE BOXES

	WRITE IN NO.	
Spouse/Co-Habitee	☐	39
Close family (parents, children, brother/sister)	☐	40
Other relatives	☐	41
Neighbours	☐	42
Friends	☐	43
Colleagues	☐	44
Acquaintances	☐	45
Other (write in) ----------	☐	46

ASK ALL RESPONDENTS

Q.19 What type of help is available in your region for alcoholics. DO NOT PROMPT. TICK APPROPRIATE BOXES IN FIRST COLUMN.

Q.20 SHOWCARD H

And if a friend or relative in your community asked where they should seek help for an alcohol problem of their own, which of these would you recommend them to seek help from?
TICK APPROPRIATE BOXES IN SECOND COLUMN

	Q.19 SPONTANEOUS	Q.20 PROMPTED	
Their own doctor (GP)	☐	☐	47/48
Social work agency	☐	☐	49/50
Council on Alcoholism	☐	☐	51/52
Alcoholics Anonymous	☐	☐	53/54
Psychiatrist	☐	☐	55/56
General Hospital	☐	☐	57/58
Unit for Treatment of Alcoholism	☐	☐	59/60
Drink Watcher	☐	☐	61/62
Salvation Army	☐	☐	63/64
Clergy	☐	☐	65/66
Other (write in & tick box) ----------	☐		67

Don't know/None of these	☐	☐	68/69

ASK ALL RESPONDENTS

SHOWCARD I

Q.21 I am going to read out a number of statements other people have made about alcoholics and alcoholism. Please can you tell me whether you agree or disagree with each statement. It does not matter if you do not know very much about the subject it is just your impressions that we are interested in?

CARD NO. 3 2 (10)(11)

INTERVIEWER: ROTATE ORDER OF ASKING WITH EACH INTERVIEW. TICK START BOX.

	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	DON'T KNOW	
.Most alcoholics just want to live it up	1	2	3	4	12
.Alcoholics lack good moral upbringing	1	2	3	4	13
.Some people react to drink and get drunk very quickly	1	2	3	4	14
.The best treatment for an alcoholic is given by a doctor	1	2	3	4	15
.In most situations alcoholics cause other people great embarrassment	1	2	3	4	16
.People would prefer not to know alcoholics	1	2	3	4	17
.The alcoholic has never learned to grow up	1	2	3	4	18
.Alcoholics are similar to other people who have difficulty in dealing with everyday life	1	2	3	4	19
.Treatment for alcoholics should be voluntary	1	2	3	4	20
.Alcoholics are irresponsible	1	2	3	4	21
.Alcoholics will usually try to get other people to fall in with their drinking habits	1	2	3	4	22
.Anyone could turn to alcohol abuse when under great stress	1	2	3	4	23
.Alcoholics are not responsible for their behaviour when drunk	1	2	3	4	24
.Alcoholics are sick people	1	2	3	4	25
.Alcoholics can learn to drink socially	1	2	3	4	26
.Alcoholics have no control over their need for drink	1	2	3	4	27
.Once an alcoholic takes a drink he can't control how much he will consume	1	2	3	4	28

CLASSIFICATION SECTION

INTERVIEWER: OBTAIN THE FOLLOWING INFORMATION FOR EACH MEMBER OF THE HOUSEHOLD:

Q.22 *(1) Relationship to Head of Household (or chief wage earner)?*
(2) Sex?
(3) Age?
(4) Marital Status?
(5) Activity/Employment?

	RESPONDENT	PERSON 2	PERSON 3	PERSON 4	PERSON 5	PERSON 6	PERSON 7	PERSON 8
RELATIONSHIP TO HEAD OF HOUSEHOLD	(29)	(35)	(41)	(47)	(53)	(59)	(65)	(71)
Head of Household	1	1	1	1	1	1	1	1
Spouse of Head of Household	2	2	2	2	2	2	2	2
Child of Head of Household	3	3	3	3	3	3	3	3
Parent of Head of Household	4	4	4	4	4	4	4	4
Other Relation of H/H	5	5	5	5	5	5	5	5
Not related to H/H	6	6	6	6	6	6	6	6
SEX	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)
Male	1	1	1	1	1	1	1	1
Female	2	2	2	2	2	2	2	2
AGE IN YEARS (Write in)	(31)(32)	(37)(38)	(43)(44)	(49)(50)	(55)(56)	(61)(62)	(67)(68)	(73)(74)
N.B. Less than 1 yr - 00 98+ years - 98 Don't know - 99								
MARITAL STATUS	(33)	(39)	(45)	(51)	(57)	(63)	(69)	(75)
Single (not living with someone as married)	1	1	1	1	1	1	1	1
Married (or living with someone as married)	2	2	2	2	2	2	2	2
Separated/Widowed/Divorced	3	3	3	3	3	3	3	3
ACTIVITY/EMPLOYMENT STATUS	(34)	(40)	(46)	(52)	(58)	(64)	(70)	(76)
Full-time work (30+ hours per week)	1	1	1	1	1	1	1	1
Part-time work (8-29 hours per week)	2	2	2	2	2	2	2	2
Unemployed and seeking work	3	3	3	3	3	3	3	3
Unemployed & not seeking work	4	4	4	4	4	4	4	4
Temporarily laid off	5	5	5	5	5	5	5	5
Permanently out of work due to illness/disability	6	6	6	6	6	6	6	6
Temporarily out of work due to illness/disability (ie no job to go back to)	7	7	7	7	7	7	7	7
Retired	8	8	8	8	8	8	8	8
Housewife	9	9	9	9	9	9	9	9
Full-time education (17+ yrs)	0	0	0	0	0	0	0	0
School (5-16 years)	X	X	X	X	X	X	X	X
Pre-school/School under 5	Y	Y	Y	Y	Y	Y	Y	Y

WHEN YOU HAVE COLLECTED THE PERSONAL DETAILS PLEASE COMPLETE THE FOLLOWING SUMMARY:

CARD NO. 3 3 (10-11)

NUMBER OF ADULTS AGED 15+ (12)

NUMBER OF CHILDREN AGED 5-14 (13)

NUMBER OF CHILDREN AGED 0-4 (14)

TOTAL NUMBER IN HOUSEHOLD: (15)

PLEASE WRITE IN THE EXACT DATE OF BIRTH OF RESPONDENT

DATE	MONTH	YEAR
(16)(17)	(18)(19)	(20)(21)

Refused - 1 (22)

Q.23 *Do you go out to work ...PROBE*
RE-RECORD FROM Q.22 ON PREVIOUS PAGE

Full-time (30+ hrs per week)- 1 Part-time (8-29 hrs per week) 2 Unemployed ---------- 3 Permanently out of work due to illness or disability -- 4 Retired ---------- 5	ASK Q.24.	23
Housewife (ie not more than 7 hrs work outside the home)- 6 Full-time education --------- 7	GO TO Q.25a	

Q.24 And could you tell me your occupation (present or last main paid job)?

NAME/TITLE OF JOB: ----------

WHAT DO/DID YOU DO: ----------

SKILL/TRAINING/QUALIFICATIONS/ EXPERIENCE REQUIRED FOR JOB: ----------

SUPERVISION/MANAGEMENT RESPONS-IBILITIES (Including Number of People Supervised): ----------

INDUSTRY/BUSINESS PROFESSION (Of Employer): ----------

NUMBER OF PEOPLE EMPLOYED AT PLACE OF WORK: Under 25 people ---------- 1
25 or over ---------- 2 — 24

EMPLOYMENT STATUS: Employee ---------- 1
Self-employed ---------- 2 — 25

INTERVIEWER: CODE SOCIAL CLASS

A ---------- 1
B ---------- 2
C1 ---------- 3
C2 ---------- 4
D ---------- 5
E ---------- 6 — 26

FOR OFFICE USE ONLY [ ][ ] — 27-28

ASK ALL (EXCEPT UNEMPLOYED WHO GO TO Q.25b)

Q.25a Have you received unemployment benefit at all in the past 12 months?

Yes ---------- 1 ASK Q.25b.
No ---------- 2 GO TO Q.26 — 29

Q.25b For how many weeks in the past 12 months were you/have you been unemployed?

[ ][ ] Weeks — 30-31

Q.26 Is the respondent the head of household?

Yes ---------- 1 GO TO Q.30
No ---------- 2 ASK Q.27 — 32

Q.27 Does the Head of Household go out to work?
RE-RECORD FROM Q.22.

Full-time (30+ hrs per week)- 1 Part-time (8-29 hrs per week) 2 Unemployed ---------- 3 Permanently out or work due to illness or disability -- 4 Retired ---------- 5	ASK Q.28	33
Housewife (ie not more than 7 hrs work outside the home)- 6 Full-time education --------- 7	GO TO Q.29a	

Q.28 And could you tell me the occupation of the Head of Household (present or last main paid job)?

NAME/TITLE OF JOB: ----------

WHAT DOES/DID HE/SHE DO: ----------

SKILL/TRAINING/QUALIFICATIONS/ EXPERIENCE REQUIRED FOR JOB: ----------

SUPERVISION/MANAGEMENT RESPONS-IBILITIES (Including Number of People Supervised): ----------

INDUSTRY/BUSINESS PROFESSION (Of Employer): ----------

NUMBER OF PEOPLE EMPLOYED AT PLACE OF WORK: Under 25 people ---------- 1
25 or over ---------- 2 — 34

EMPLOYMENT STATUS: Employee ---------- 1
Self-employed ---------- 2 — 35

INTERVIEWER: CODE SOCIAL CLASS

A ---------- 1
B ---------- 2
C1 ---------- 3
C2 ---------- 4
D ---------- 5
E ---------- 6 — 36

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ASK EXCEPT IF HEAD OF HOUSEHOLD IS UNEMPLOYED WHO GO TO Q.29b

Q.29a Has the head of household received unemployment benefit at all in the past 12 months?

Yes ---------- 1 ASK Q.29b
No ---------- 2 GO TO Q.30 — 39

Q.29b For how many weeks in the past 12 months was the head of household unemployed?

[ ][ ] Weeks — 40-41

ASK ALL RESPONDENTS

Q.30 SHOWCARD J
Have you always lived in this region ... (ASK AS APPROPRIATE), Highlands & Islands/Tayside/Kent or have you moved away for a time, or have you moved here from another region?

Yes, always lived in region	1	42
No, moved away for a time	2	
No, moved here from another region	3	

Q.31 AREA RESPONDENT BORN IN

Scotland - Highlands & Islands Region	1	43
Scotland - Tayside	2	
Scotland - Elsewhere	3	
England - Kent	4	
England - Elsewhere	5	
Wales	6	
Northern Ireland	7	
Eire	8	
Elsewhere	9	
Don't know	0	

Q.32 In total, how long have you lived in ...(ASK AS APPROPRIATE) The Highlands & Islands/Tayside/Kent? WRITE IN TO NEAREST YEAR

☐☐ Years 44-45

IF LESS THAN 5 YEARS ASK Q.33 - OTHERS GO TO Q.34

Q.33 Did you move to ... The Highlands & Islands/Tayside/Kent from an urban or from a rural area?

Urban (Town/City)	1	46
Rural (Village/Country)	2	
Don't know	3	

ASK ALL RESPONDENTS

Q.34 And in total how long have you lived in this village/town/city/area? WRITE IN TO NEAREST YEAR

☐☐ Years 47-48

Q.35 RELIGION OF RESPONDENT

Church of Scotland	1	49
Church of England/Scottish Episcopal Church	2	
Free Church of Scotland	3	
Roman Catholic	4	
Baptist	5	
Methodist	6	
Jewish	7	
Moslem	8	
Quaker	9	
Other Religion (write in and ring)	0	
None/Agnostic/Atheist	1	50
Humanist/Marxist	2	
Refused	3	

ASK ALL RESPONDENTS

Q.36 SHOWCARD K
Finally, could you please read the code letter on this card into which your household's total income is in?

INTERVIEWER: The amount shown in columns A and B is the amount taken home after tax and contributions have been deducted.

The annual salary before tax or any deduction is shown in column C.

A	2	51
B	5	
C	8	
D	X	
E	1	
F	3	
G	6	
H	9	
I	4	
J	7	
K	0	
Don't know	1	52
Refused	2	

INTERVIEWER CODE:

Q.37a Was anyone else present?

Yes, for most/or all of interview	1	53
Yes, for some of it	2 GO TO Q.37b	
Yes, briefly	3	
No	4 GO TO Q.38	

Q.37b Who was present? (Relationship to Respondent)

	YES	NO	
Spouse/Co-Habitee	1	2	54
Father or mother	1	2	55
Other adult in household	1	2	56
Child 13 years or over	1	2	57
Child 12 years or under	1	2	58
Friend	1	2	59
Other (write in and ring)			
----------	1	2	60

Q.38 PLEASE TICK APPROPRIATE BOX

A	☐ 1	61
B	☐ 2	
DON'T KNOW	☐ 3	

Q.39 INTERVIEWER: Do you know the respondent?

Yes	1	62
No	2	

APPENDIX J : Questionnaire used in follow-up survey

ALCOHOL RESEARCH GROUP

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CONFIDENTIAL

1983 Survey of Drinking Habits

Please answer the following questions by putting a tick in the appropriate box.

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Respondent number ☐☐☐

Code

Q.1 How often do you usually have a drink containing alcohol?

(tick one)

		Col.
Almost every day	☐	1
3 or 4 times a week	☐	2
1 or 2 times a week	☐	3
About once a fortnight	☐	4
Once a month	☐	5
Once every 3 or 4 months	☐	6
About twice a year	☐	7
About once a year	☐	8
Less than once a year	☐	9
Have never had a drink containing alcohol	☐	0

If you have never had a drink containing alcohol, please turn to the pink sheet. Do not answer questions 2 - 4.

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Q.2 Starting yesterday, how long has it been since you last had a drink containing alcohol?

(tick one)

		Col. 1
In past 7 days	☐	
Over 7 days but up to 1 month ago	☐	2
Over 1 month ago but up to 3 months ago	☐	3
Over 3 months ago but up to 6 months ago	☐	4
Over 6 months ago but up to 9 months ago	☐	5
Over 9 months ago but up to 12 months ago	☐	6
Over 12 months ago but up to 24 months ago	☐	7
Over 24 months ago	☐	8

Q.3 On how many days did you have a drink last week? (Ignore today, start yesterday)

(tick one)

0	☐	0
1	☐	1
2	☐	2
3	☐	3
4	☐	4
5	☐	5
6	☐	6
7	☐	7

Q.4 Think very carefully about the last day when you had a drink containing alcohol. Please record what you had to drink then.

(a) On what day of the week did you drink then?

(tick one)

Monday	☐	1
Tuesday	☐	2
Wednesday	☐	3
Thursday	☐	4
Friday	☐	5
Saturday	☐	6
Sunday	☐	7

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(b) How many single measures of spirits or glasses of wine (sherry etc.) did you drink then?

(tick one)

0	☐	0
1-2	☐	1
3-4	☐	2
5-6	☐	3
7-8	☐	4
9-10	☐	5
11-14	☐	6
15-18	☐	7
19-22	☐	8
23-26	☐	9
27-30	☐	X
31 or more	☐	Y

(c) How many pints of special lager did you drink then?

(tick one)

0	☐	0
1-2	☐	1
3-4	☐	2
5-6	☐	3
7-8	☐	4
9-10	☐	5
11-14	☐	6
15-18	☐	7
19-22	☐	8
23-26	☐	9
27-30	☐	X
31 or more	☐	Y

(d) How many pints of ordinary beer/lager/cider/ stout, etc. did you drink then?

(tick one)

0	☐	0
1-2	☐	1
3-4	☐	2
5-6	☐	3
7-8	☐	4
9-10	☐	5
11-14	☐	6
15-18	☐	7
19-22	☐	8
23-26	☐	9
27-30	☐	X
31 or more	☐	Y

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Q.5 Are you married?

(tick one)

Single (not living with someone as married)	☐	1
Married (or living with someone as married)	☐	2
Separated/Widowed/Divorced	☐	3

Q.6 Are you the head of your household?

(tick one)

Head of Household	☐	1
Spouse of Head of Household	☐	2
Child of Head of Household	☐	3
Parent of Head of Household	☐	4
Other Relation of Head of Household	☐	5
Not related to Head of Household	☐	6

Q.7 Do you have a job?

(tick one)

Full-time work (30+ hours per week)	☐	1
Part-time work (8-29 hours per week)	☐	2
Unemployed and seeking work	☐	3
Unemployed and not seeking work	☐	4
Temporarily laid off	☐	5
Permanently out of work due to illness/disability	☐	6
Temporarily out of work due to illness/disability (i.e. no job to go back to)	☐	7
Retired	☐	8
Housewife	☐	9

Q.8 What is or was your occupation?

NAME/TITLE OF JOB: _____

WHAT DO/DID YOU DO? _____

SKILL/TRAINING/QUALIFICATIONS/ EXPERIENCE REQUIRED FOR JOB _____

SUPERVISION/MANAGEMENT RESPONSIBILITIES (including number of people supervised) _____

INDUSTRY/BUSINESS PROFESSION (Of Employer)_____

NUMBER OF PEOPLE EMPLOYED

AT PLACE OF WORK: (tick one)	Under 25 people	☐	1
	25 or over	☐	2
EMPLOYMENT STATUS: (tick one)	Employee	☐	1
	Self-employed	☐	2